INFORMATION SERVICES MARKET ANALYSIS PROGRAMME–EUROPE

LEADING VENDOR PROFILES

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COMPANY PROFILES

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Information Services Programme—Europe

Company Profiles

COMPANY PROFILES

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COMPANY PROFILE

LOGICA PLC
68 Newman Street
London W1A 4SE
United Kingdom
Tel: 44 71 637 9111
Fax: 44 71 637 8229

Non-Executive Chairman: Paul Bosonnet
Managing Director and Chief Executive:
Dr. Martin Read
Status: Public
Number of Employees: Over 3,400
Revenue (FYE 30-6-93): PS£217.4 million

The Company

Logica is a leading consultancy, software development and systems integration company. Over 80% of its revenue comes from the U.K. and Europe. In the U.S. it has a significant presence in the wholesale and retail banking sectors.

Overall, Logica's strengths lie in banking and finance, defence and government, energy, utilities and space.

These sector-based skills are being extended throughout Logica's chosen geographic markets.

Financial Information

The five-year financial summary for Logica is shown in Exhibit A.

Exhibit A

FIVE-YEAR FINANCIAL SUMMARY (FYE 30-6)

YEAR	1989	1990	1991	1992	1993
Revenues (PS£ Millions)	173.5	190.8	197.8	200.4	217.4
Annual Growth Rate (%)	28	10	3.7	1.3	8.5
Profit before Taxes (PS£ Millions)	18.3	8.8	3.7	7.1	9.0
Annual Growth Rate (%)	24	(52)	(58)	92	28

Source: Logica

Exhibit B provides the key financial ratios for Logica.

Exhibit B

KEY FINANCIAL RATIOS

Measure	1989	1990	1991	1992	1993
Revenues per employee (PS£'000s)	51.2	53.3	54.2	59.3	63.1
Profit per employee (PS£'000s)	5.0	2.6	2.3	2.1	2.6
Return on sales (%)	10.1	4.9	4.2	3.5	4.2
Return on capital employed (%)	32.1	16.7	16.7	16.0	19.4

Source: Logica

Market Anaylsis

Exhibit C identifies the breakdown of Logica's overall revenues by market sector.

Exhibit C

**ESTIMATED REVENUES BY MARKET SECTOR, EUROPE
LOGICA, 1993**

LOGICA SECTOR	REVENUES (PS£ MILLIONS)	SHARE (%)
Defence	22	10
Energy & Utilities	24	11
Industry	19	9
Telecommunications	17	8
Government	35	16
Transport	15	7
Space	11	5
Finance	63	29
Computing & Electronics	11	5
TOTAL	**217**	**100**

Source: Logica

The bulk of the company's revenues are derived from the Finance, Energy and Utilities, and Government and Defence sectors, though the company has well-established niche markets in the telecommunications and space sectors and is targeting the air travel sector via its joint venture with British Airways.

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Exhibit D provides INPUT's estimates by delivery mode.

While Logica recognises the importance of software products and kernels, the bulk of the company's revenues continue to be derived from its professional services and systems integration activities.

Exhibit D

ESTIMATED REVENUES BY INDUSTRY SECTOR
SOFTWARE AND SERVICES, EUROPE
LOGICA, 1993

	REVENUES ($ MILLIONS)	SHARE (%)
Industry Sectors:		
Discrete Manufacturing	45	16
Process Manufacturing	35	12
Transportation	20	7
Utilities	30	11
Telecommunications	20	7
Banking and Finance	70	25
Insurance	10	4
Local Government	10	4
National Government	35	12
Systems Software Products	10	4
Total Software and Services	285	100

Source: INPUT

Exhibit E

**ESTIMATED REVENUES BY DELIVERY MODE
SOFTWARE AND SERVICES, EUROPE
LOGICA, 1993**

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	10	3
Application Software Products	25	9
Turnkey Systems	30	10
Professional Services	140	48
Systems Integration	80	28
Total Software and Services	285	98
Equipment/Other Revenues	5	2
Total European Revenues	290	100

Source: INPUT

Exhibit F identifies Logica's revenues by region while Exhibit G provides
INPUT's estimates of Logica's software and services revenues within Weste
Europe.

Exhibit F

TWO-YEAR MARKET ANALYSIS BY REGION

REGION	1993		1992	
	REVENUES PS£ MILLIONS	PERCENT	REVENUES PS£ MILLIONS	PERCENT
United Kingdom	130	60	122	61
Rest of Europe	51	24	40	20
North America	22	10	24	12
Asia Pacific	14	6	15	8
TOTAL	217	100	200	100

Source: Logica

European revenues outside the U.K. grew 28% in 1993 to reach 30% of
worldwide company turnover. Exhibit G gives INPUT's estimates of
European revenues.

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Exhibit G

ESTIMATED REVENUES BY COUNTRY
INFORMATION SERVICES, EUROPE
LOGICA, 1993

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
Germany	10	4
U.K.	180	63
Italy	40	14
Netherlands	33	12
Belgium/Lux'	6	2
Switzerland	6	2
Sweden	4	1
Denmark	1	1<
Eastern Europe	1	<1
Total Information Services	285	100

Source: INPUT

Organisation Structure

Exhibit H shows the main operating subsidiaries. In the U.K. Logica is organised to serve vertical markets. Its research organisation is Logica Cambridge Ltd.

Exhibit H

PRINCIPAL OPERATING SUBSIDIARIES

COMPANY	COUNTRY	INTEREST
Logica UK Ltd	U.K.	100%
Logica Defence & Civil Government Ltd	U.K.	100%
Logica Cambridge Ltd	U.K.	100%
Logica Space & Communications Ltd	U.K.	100%
Logica Finance Ltd	U.K.	100%
Logica Industry Ltd	U.K.	100%
Logica BV	Netherlands	100%
Logica GmbH	Germany	100%
Logica SA	Belgium	100%
Logica Svenska AB	Sweden	100%
Logica North* America Inc	U.S.A.	100%
Logica Pty Ltd	Australia	100%
Logica Ltd	Hong Kong	100%
Logica Technology Services Sdn Bhd	Malaysia	100%
Logica Pte Ltd	Singapore	100%

Formerly Logica Data Architects, Inc.

Logica does not have a division dedicated to systems integration. Large projects are handled within the relevant industry-specific division which contains all the necessary sales, project management, and implementation personnel.

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Acquisitions

Logica acquired Data Architects, a U.S. company, in 1988, at a cost of £25.7 million, now part of Logica North America, Inc.

Logica holds 40% of the ordinary shares of Logicasiel in a joint venture (originally) with Data Management in Italy. This latter company was acquired by Finsiel and the joint venture has been renamed. It was formerly known as Logica General Systems SpA and it acquired, in 1990, a controlling interest (65%) in GSO Informatica SpA, a company specialising in the manufacturing industry and healthcare sectors. In June 1992, the remaining 35% of the shares were acquired.

A quarter of Logica's revenues from the manufacturing sector are now accrued in Italy.

In 1990, Logica and British Airways established a joint venture, Speedwing Logica Limited, which is owned 51% by British Airways and 49% by Logica.

Recent Major Projects

The following are examples of major projects:

- For the Water Board, Sydney, Australia; value A$27 million; prime responsibility for the telemetry system for a monitoring and control system.

- For Chemical Bank; supply and install the Teknekron Trading System in London with 200 users in trading and off-floor positions.

- For DDI in Japan; a contract, resulting from Logica's collaboration agreement with Mitsui, to define requirements for a new billing system.

- For the Commission of the EC; prime responsibility for National Servers Pilot Project linking 20 administrations in six countries.

- For the U.K. Civil Aviation Authority; as a member of the consortium led by IBM; contract for New En Route Centre.

Products and Services

a. **Technologies**

During the year to June 1992, Logica invested PS£4.8 million in R&D, approximately the same as in the previous year.

Logica's investment in research and development supports two main areas: Firstly, the development of skills and expertise in new technologies which the company regards as important for the future of the business. Secondly, the development of products and kernels, which form a basis for much of the

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b. Key Application Products

Logica recognises the role of software products and kernels in supporting its systems integration activity and the company's software product portfolio includes:

- ON/2, a financial transaction processing system

- BESS, a modular global funds transfer system

- FASTWIRE, communications product

- An X.400 product being developed in conjunction with Tandem

- Logica Transaction Director for interconnection of applications across differing hardware platforms

- Storenet/2, an EPOS networking product

- MASTER CONTROL 2000 for operational pipeline management

- ENDS, for electrical utilities

- TRACE, a personnel movements tracking product used by oil companies

- CARDS, for Manpower planning and colliery management

- GALLERY 2000, a stills library management system.

c. Industry Knowledge

Logica is especially strong within the following sectors:

- Banking and Finance
- Space
- Telecommunications
- Energy and Utilities
- Defence

Banking & Finance

The banking and finance sector is the largest and most international of Logica's defined market sectors. Logica recognises the growing importance of product, and kernel-based solutions to optimise cost-effectiveness and delivery times for projects in the sector and the company's product range now includes

offerings for information distribution, financial message switching and communications, payments platforms, treasury, dealing and transaction processing applications.

Examples of work carried out by Logica in the banking and finance sector include:

- The development of a custom interface to the SWIFT II Network for the Instituto Bancario San Paolo di Torino.

- The development of a common front end to provide access to each of Norwich Union's mainframe-based financial services products.

- The supply and implementation of the Teknekron trading system for Chemical Bank.

- The implementation of a banking network for 1,400 branches of the Australian and New Zealand Banking Group throughout Australia.

Space

Logica is one of the leading suppliers of software and services to the space industry, providing software and systems in the areas of ground control operations, onboard systems and satellite-based control systems. The company's clients include many of Europe's space agencies and their main contractors.

Examples of projects carried out by Logica on behalf of the European Space Agency include:

- Support for BAe in the development of the Polar Platform spacecraft.

- Design and development of software for spacecraft control and simulation, in particular for the Infra-red Space Observatory.

- The design of on-board software for the Huygens probe on its mission to Titan, for Aerospatiale, prime contractor to the European Space Agency.

Telecommunications

Logica is well-established in this sector and its activities involved intelligent network infrastructure and applications, network management, messaging services, mobile radio networks and communications satellites. Logica's client list includes a number of PTTs and also satellite organisations where Logica's knowledge of both telecommunications and the space sector is a significant strength. The company also believes that its range of products and kernels are a major strength, enabling its clients to deploy new services rapidly and with minimum risk in a highly competitive environment.

Examples of projects in which Logica has been involved include:

- The provision of intelligent network services to Finland Telecom.

- The development of a customer billing and administration system for Hutchison Telecom, Hong Kong.

- The development of the Dutch PTT Telecom's SAGITTA network and Tradeserver system.

- The implementation of the Hong Kong Telecom International tariffs and traffic accounting system.

- The design and development of a customer administration, billing and sales ledger system for Ferranti Creditphone.

- The requirements definition of a billing system including intelligent networking for DDI.

- The development of software for conformance testing for GSM handsets for mobile telephony.

Logica has an international co-operative marketing agreement with Tandem Telecommunications Systems Inc. covering the latter's intelligent network application software products.

Energy & Utilities

Logica has considerable experience in implementing monitoring and control systems for the oil and gas and water industries.

Examples of projects carried out by Logica include:

- A digital mapping system for Anglian Water.

- Water pressure and flow monitoring systems for Anglian Water.

- The Regional Telemetry Scheme for Yorkshire Water.

- The Regional Operations Database for Yorkshire Water.

- Enhancement of a system providing meteorological and oceanographical information for Shell Exploration and Production.

- Regional gas control systems for British Gas.

- National gas pipeline management system for Nederlandse Gasunie.

• A multi-million pound integrated instrumentation control, automation and telemetry system for Sydney Water Board.

Logica's Master Control systems kernel is the foundation for much of the company's work in pipeline operations management for both the oil and gas and water industries.

Logica has a co-operative business agreement with Yorkshire Water to promote joint IS skills to the water industry worldwide.

Defence

Logica views its work in advanced technology, in areas such as signal processing and computer security and communications as key to its success in the defence sector.

Examples of projects in which Logica has been involved include:

• Development of a system for interpreting reconnaissance pictures from military aircraft on behalf of the U.K. Ministry of Defence.

• A system to automate the detection of engine and gear box failure in the helicopters of the Fleet Air Arm.

• The development and installation of an operational connectivity management system for the shore end of the Royal Navy's ship-shore-ship communications network.

Strategic Analysis (SI)

a. Company Direction

In some ways it is difficult to identify a group strategy for Logica. But there are new signs that the company is now seeking to expand its limited geographic coverage. It had been suggested that in recent years the company has itself been available for acquisition rather than seeking acquisition targets of its own.

Logica recognises the importance of partnerships in support of its systems integration activities, and is seeking to establish relationships with both clients and other vendors. Recent examples include the formation of Speedwing, a joint venture with British Airways, and a co-operative business agreement with Yorkshire Water. The company has also established a strong relationship with Tandem involving a co-operative marketing agreement covering the latter's intelligent networking application software products and the joint development of an X.400 product.

Logica is keen to develop its partnerships with the equipment vendors. The company has assisted IBM in developing a number of software products and views this activity as a key means of gaining early product information providing the opportunity to use the products in systems integration projects or to assist in early implementations.

The company will continue to develop its own kernels and to form partnerships with vendors of key software products since it recognises the increasing requirement for such products within systems integration projects.

With its considerable telecommunications expertise, and own gateway product, Logica may also expand its network integration activities.

However Logica remains a specialist in technical computing and will continue its research into leading edge technologies such as neural networks, speech and language technology, and signal processing.

(i)   Consulting

Logica Consultancy Limited was closed down in 1990 and the relevant experience transferred to the operating units. While Logica estimates that a quarter of its revenues are derived from consultancy, this is essentially technical consultancy ranging from the development of IS strategies to advice in areas such as telecommunications.

Some examples of consultancy projects carried out by Logica include participation in:

• The development of the requirements and options for the Polar Platform ground segment

• The development of the standards of the Intentional Consultative Committee on Space Data Systems

• The evaluation and certification of secure IS products via Logica's Commercial Licensed Evaluation Facility.

While Logica undoubtedly possesses a significant body of industry expertise within its various industry groups, it lacks the commercial management consultancy expertise which is being assembled by some of its major competitors in the systems integration market.

(ii)   Geographic Coverage

Logica's geographic coverage is poor in comparison with the company's major rivals who are endeavouring to establish a major presence in each of the principal European countries.

While the company has some presence in Italy, it particularly lacks a significant presence in Germany and France.

Outside the four major countries, Logica is best established in Benelux with some presence in Scandinavia.

(iii) Partnerships

Logica recognises that few vendors will be capable of supplying all the skills and products required for large systems integration projects, and is in the process of establishing a complementary set of partnerships and alliances with both its clients and other vendors.

Examples of existing partnerships are:

- Logica General Systems' joint venture with Dun & Bradstreet to distribute the latter's application software products in Italy.

- Collaboration with BAe in space projects such as the Polar Platform.

- Logica's work with equipment manufacturers such as IBM, Tandem, and Hitachi in developing software products.

- Marketing rights for the Teknekron Trading System, an integrated dealing room system.

- A co-operative business agreement with Yorkshire Water.

- The approved industrial systems integrator relationship with IBM U.K., where Logica is believed to have been involved in the initial implementation of the POMS product in the process manufacturing sector.

- Joint development of an X.400 software product with Tandem.

- Joint development with IBM on its DataTrade product in support of financial dealing rooms.

- Speedwing, a joint venture with British Airways.

b. Strengths and Weaknesses

Logica has a long history of implementing large professional services projects and has considerable expertise in software development methodologies and project management.

The company also has considerable technical computing expertise from which it has built positions of strengths in the space, telecommunications, energy and utilities sectors. In the commercial sphere, though influenced considerably by

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the company's telecommunications expertise and product portfolio, Logica has built up a strong position in the finance sector. It is possible that the company will increasingly apply its network integration skills across a broader range of industry sectors.

Logica has also established close relationships in support of the software product development activities of a number of equipment vendors including IBM and Tandem. This has the potential to increase Logica's involvement in systems integration projects involving these products.

While Logica has a high level of skill in areas such as telecommunications, telemetry, and other technical aspects of IS, the company lacks the presence in commercial IS shown by many of its major competitors, and lacks a strong commercial management consultancy capability.

While the company has a strong relationship with Ford Motor Company and is an approved industrial systems integrator on behalf of IBM, Logica is not especially strong in the general manufacturing and commerce sectors.

The company also lacks a significant presence in France and Germany.

c. Conclusions

The appointment of Dr. Martin Read as CEO in August 1993 shows that Logica's board is now looking to set new goals in terms of profitability and the resolution of problems in the U.S. operation.

Logica is currently one of the second-tier systems integration vendors behind CGS, Andersen Consulting and IBM. It has achieved this position largely by virtue of its activities in the U.K. Though it has had some very large and successful projects elsewhere, Logica lacks the geographic coverage to become a major player in serving the market for pan-European commercial systems integration projects.

Logica has tried to develop a major presence in the U.S. but so far appears to have failed in this endeavour, and lacks the financial resources to make a major acquisition there.

The company's most promising systems integration endeavours include the space and defence sectors, where the company has considerable expertise, and in technical projects in the energy and utility sectors. However, Logica can be expected to face tough competition in establishing itself even in these sectors outside the U.K.

Logica has strong capability in network integration in the banking and finance sector and has expanded strongly in transportation recently, but is comparatively weak in the general manufacturing and commercial sectors where the company seems content to play a supporting professional services role to equipment manufacturers such as IBM.

d. Strategic Assessment - Logica

Logica developed a strong reputation for its project capabilities and specifically selected areas of expertise, most notably in telecommunications. Its reputation has largely been limited to the U.K. market, though it has had recent successes in the Netherlands, Switzerland and Italy.

Logica has also eschewed taking an aggressive stance in respect of seeking total responsibility for projects, preferring to work to defined IT requirements rather than having a broader view of a client's total business needs. This may change with the appointment of a new CEO. Logica remains a tempting takeover target.

COMPANY PROFILE

**LOTUS DEVELOPMENT
CORPORATION
(CORPORATE HQ)**
55 Cambridge Parkway
Cambridge, Massachusetts 02142
U.S.A.
Tel: 1 617 577 8500
Fax: 1 617 225 0890

President: Jim Manzi
Number of Employees: 3,000 (U.S.), 1,400
(International)
Revenue (FYE 31-12-92): $900 million
world-wide, $300 million Europe
Status: Public

(INTERNATIONAL HQ)
The Causeway
Staines
Middlesex TW18 3AG
Tel: 44 784 455445
Fax: 44 784 469342

The Company

Lotus Development Corporation is a public company and is listed on NASDAQ.

Lotus was founded in 1982 to develop applications for the emerging personal computer market. The company began its history with eight employees and $1 million in financing and introduced its first product, a spreadsheet called Lotus 1-2-3, in 1983. Lotus 1-2-3 sold more than 200,000 units during its first year on the market. The company ended its first full fiscal year with $53 million in revenue and 300 employees.

In its second year, the company introduced Symphony, an integrated software package which, like 1-2-3, remains the top-selling product in its category world-wide. During the 1980s, Lotus built its success by delivering innovative productivity tools to individuals discovering the benefits of personal computing. With the introduction of Lotus Notes in 1990, the company demonstrated its ability to deliver applications in an open workgroup environment and signalled its commitment to addressing what Lotus views as the primary imperatives for computing in the 1990s - networking and organisational computing.

In 1992 Lotus reported revenues of $900 million; a growth of 9% - largely derived from increased sales of Windows-based products - and net profits of over $80 million, an increase of 86% on 1991 figures.

The company markets its products in more than 80 countries and maintains 46 offices outside the U.S. Half its sales revenue arises outside the U.S., and this international revenue grew by 6% in 1992.

The company also markets Lotus 1-2-3 in 25 native language versions, including Arabic, Chinese, Hungarian, Slovenian and Czech.

In December 1991, the company began a series of restructuring actions to improve its cost structure, including a 10% reduction of full-time employees. These actions are reflected in the 1992 figures.

Organisational Structure

The company's headquarters are in Cambridge, Massachusetts in the U.S. Lotus categorises all operations outside the U.S. as international. Its international headquarters are at Staines in the U.K. and serve all subsidiaries outside the U.S., including Europe. Lotus has subsidiary companies in fifteen European countries including Russia, and is represented by authorised dealers in nine others.

The company's international manufacturing operations are located in Ireland and Singapore.

Exhibit A

OTHER KEY EXECUTIVES

SENIOR VICE PRESIDENTS	AREA OF RESPONSIBILITY
Edwin Gillis	Finance and Administration
John Landry	Software Development
June Rokoff	Development
Robert Weiler	North American Business Group
Robert P Schechter	International Business Group
KC Branscomb	Business Development

Acquisition History

Companies, products and technologies acquired by Lotus since its establishment include:

1985 - Partial Assets of Software Arts, creators of Visicalc, acquired.

1985 - Acquisition of Dataspeed, Inc., which led to the development of Signal, a real-time market data system delivering stock market quotations.

1986 - Acquisition of ISYS Corp., which led to the development of Lotus One Source, a family of business and financial information products delivered on CD-ROM.

1986 - Acquisition of Graphics Communications, Inc., which became Lotus Graphic Products Group, responsible for Freelance and Graphwriter.

1986 - Assets acquired from InfoCenter, which led to the development of The Applications Connection (T-A-C), software that provides connections between mainframes and PC applications.

1986 - Partial assets of Future Software acquired.

1987 - Acquisition of Datext, Inc., marketers of financial databases on CD-ROM.

1989 - Acquisition of Allways, a spreadsheet publisher, from Funk Software, Inc., to provide spreadsheet publishing capabilities to 1-2-3.

1989 - Acquisition of Aleph 2, developer of Impress. Impress technology replaced Allways as Lotus' standard spreadsheet publishing technology.

1990 - Acquisition of Alpha Software's AlphaWorks. Renamed LotusWorks, it became Lotus' entry-level integrated software offering.

1990 - Acquisition of Samna Corp., developers of Ami Professional.

1991 - Acquisition of cc:Mail, a privately owned company which developed and marketed cc:Mail, a leading LAN-based electronic mail product, for approximately $32 million and additional payments depending on future performance.

1993 - Acquisition of Approach Software, a privately held company which develops and markets Approach database software.

Disposals

In January 1991, Lotus sold the assets and related operations of
Lotus Publishing Corporation, publisher of Lotus Magazine, for
$2.4 million.

**Key Products
and Services**

Communications and Applications Platforms

Electronic Mail

Lotus cc:Mail is the leading electronic mail product with more than
2 million seats installed and approximately 35% market share.
Nearly 40% of the Fortune 500 companies use cc:Mail to support
their daily operations. cc:Mail runs on DOS, Windows, Macintosh,
OS/2 and UNIX as well as all major LANs, providing transparent
connectivity to all other major private and public electronic mail
systems, and connecting to facsimile machines world-wide. cc:Mail
runs on the leading network operating systems, including Novell
NetWare, Microsoft LAN Manager, Appletalk, OS/2LAN Server,
and Banyan Vines. The product also offers gateways to Novell
MHS, IBM PROFS, SMPT/UNIX, 3COM, MCI, AT&T and Sprint.

Lotus Notes

Lotus led the industry in defining groupware when it introduced
Lotus Notes in 1990. Lotus Notes is the company's group
collaboration software product for networked personal computers.
Notes delivers a platform for developing workgroup-based
applications and allows large groups of users to communicate
shared information across geographic and organizational
boundaries. Business information of all types can be shared,
including text, numerical data, graphics and photographs. Notes is
now being used for applications such as customer tracking, status
reporting, project management, information distribution, electronic
mail and collaborative free-form discussions of all kinds.

Application Products

Spreadsheets

Lotus 1-2-3 is the world's most popular spreadsheet with more than
20 million users world-wide. Lotus currently ships and supports
versions of 1-2-3 for the DOS, Windows, UNIX, OS/2 and
Macintosh operating systems. The company also markets Lotus
Improv. Improv is the first dynamic spreadsheet for instantly
viewing and analyzing data in new and different ways. It is a

revolutionary approach to solving business problems, available currently on Windows and the NeXT platform.

Graphics

Freelance Graphics is an award-winning presentation graphics package designed for the creation of professional-looking presentations. Lotus currently markets DOS, Windows and OS/2 versions of Freelance Graphics.

Word Processing

Lotus Ami Pro 3.0 is a word processor for the Windows environment. The product's earliest version, Ami Pro 1.0, which first shipped in October 1989, was the first advanced Windows word processor to market. Ami Pro offers word processing features such as Fast Format, SmartMerge and Clean Screen.

Lotus Write is an entry-level Windows word processor designed for portable or in-office PCs.

SmartText, a hypertext tool for the Windows environment, is designed for building, reading, navigating and searching hypertext-linked on-line documents.

Other Products

Symphony is Lotus' leading integrated software package, comprising spreadsheet, word processing, graphics, database and communications functions.

Lotus Realtime manages multiple real-time data feed server programs to facilitate complex mathematical analysis and advanced trading strategies using 1-2-3.

Lotus Organizer is Lotus' Windows-based personal information management product.

Agenda is Lotus' DOS-based personal information management product.

SmartPics for Windows is a clip-art library with more than 2,000 pieces of quality artwork. SmartPics is designed for adding visuals to Windows documents and presentation materials.

Magellan is a disk management utility for personal computers.

Multimedia SmartHelp for 1-2-3 for Windows on CD-ROM is a multimedia product that combines text, sound and animation for 1-2-3 for Windows. The product is also available on a networked version with CD/Networker.

CD/Networker is a network-based solution for multiple users to access and share CD-ROMs on a LAN.

One Source is Lotus' family of information products delivered on CD-ROM.

Lotus' Add-In Toolkits provide a broad set of programming tools that allow developers, value-added resellers and independent software vendors to create integrated applications with Lotus products.

DataLens technology provides transparent multi-vendor data access across hardware and operating system platforms, enabling Lotus users to enter data into their spreadsheets for analysis, manipulation and storage.

Consulting Services

Lotus' Consulting Services Group offers a range of technical and business consulting services. The group works with customers to develop, implement, maintain and extend applications-based solutions.

Customer Support

Lotus offers product support via telephone and other electronic means, as well as TDD support for the hearing impaired. The company offers 24-hour, 7-day support in the U.S. for PC versions of Lotus 1-2-3.

Financial   Exhibit B
Information
LOTUS DEVELOPMENT CORPORATION (CONSOLIDATED ACCOUNTS)
FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) ($ MILLIONS)

	1988	1989	1990	1991	1992
Revenue	468.5	556.0	692.2	828.9	900.1
Annual Growth Rate %	18	19	24	20	9
Profit before tax	-	84.9	52.8	67.7	120.0
Annual Growth Rate %	-	-	(38)	28	77
Profit after tax	58.9	67.9	23.2	43.1	80.4
Annual Growth Rate %	(18)	15	(66)	86	86
Earnings per share	1.29	1.61	0.54	0.98	1.87

Note: Numbers are rounded

Market
Analysis

INPUT estimates Lotus' European Software and Services revenues
accounted for $300 million in 1992.

Exhibit C

1992 MARKET ANALYSIS BY INDUSTRY SECTOR
EUROPEAN SOFTWARE AND SERVICES

INDUSTRY SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Cross-Industry Sectors: Office Systems Planning & Analysis Other Cross-Industry	45 240 15	15 80 5
TOTAL **SOFTWARE AND SERVICES**	**300**	**100**

*INPUT estimates

Exhibit D

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE
EUROPEAN SOFTWARE AND SERVICES

DELIVERY MODE	REVENUES ($ MILLIONS)	PERCENT
Application Software Products Network Services	295 5	98 2
TOTAL SOFTWARE AND SERVICES	**300**	**100**

*INPUT estimates

Exhibit E

1992 MARKET ANALYSIS BY COUNTRY
EUROPEAN SOFTWARE AND SERVICES

COUNTRY	REVENUES* ($ MILLIONS)	PERCENT
France	75	25
Germany	70	23
U.K.	35	12
Italy	35	12
Netherlands	17	6
Belgium/Lux'	10	3
Spain	10	3
Switzerland	16	5
Austria	6	2
Sweden	7	2
Denmark	6	2
Norway	3	1
Finland	5	2
Ireland	2	1
Portugal	1	< 1
Greece	1	< 1
Eastern Europe	1	< 1
TOTAL INFORMATION SERVICES	**300**	**100**

*INPUT estimates

**Company
Strategies**

Company Direction

Lotus sees its future in LAN-based communications, which has
become the central focus of the company's business strategy. This
strategy comprises three strands of development.

· Firstly, Lotus plans to take the lead in communications and workgroup computing. Its two core products in this area are cc:Mail and Notes. The company also plans to build on the natural "fit" between these two products. The mail application in Notes, for example, will evolve to incorporate the best features of cc:Mail, such as Smart addressing with a user interface, optimised for integration with Notes applications. At the same time, cc:Mail will evolve to incorporate Notes features such as forms and rich text.

· The second part of its strategy lies in bringing a solid communications underpinning to Lotus' core desktop applications - spreadsheet, word processing and graphics applications. It has already extended functionality and utility by mail-enabling its Window applications. The next release of 1-2-3 for Windows will have the new group-enabling capabilities known as Chronicle. Using Chronicle, groups of spreadsheet users can view each others' assumptions, enter them and construct alternative scenarios based on varying assumptions.

· The third strand in its strategy is mobile computing, which Lotus views as an extension of its cross-platform strategy. Lotus co-developed with Hewlett-Packard the first full-function palmtop computer, the HP95LX, and will continue to aggressively pursue portable solutions for its customers. The company will leverage its communications product strengths in portable software development. Lotus believes that communications capabilities will be a defining element of all types of portable technology.

Lotus declared five priorities in 1992:

- Improve 1-2-3 for Windows

- Broaden its position in desktop integration and Suite sales

- Get its communications business to scale and dominate that arena

- Commit fully to cost management at all levels of the organisation

- Be more aggressive in promoting its technological developments.

Through its subsidiaries and distributor network, Lotus has a wide European coverage. This is enhanced by the introduction of its Strategic Systems Consultants and Systems Integrators programme. Consultants include management consultancies such as KPMG Peat

Marwick, Price Waterhouse, Coopers & Lybrand and Touche Ross. Systems integrators include EDS, Philips and Systemhouse. The Lotus partners offer full consultant services on its products.

Strengths and Weaknesses

Lotus' main strengths can be summarised as follows:

· Leader in desktop applications

· 1-2-3 as an industry standard product

· Wide diverse clientele

· Strong financial performance

Lotus is recognised as a leader in the market for desktop applications. Its main strength is its innovative spreadsheet package. In spite of competition from 'clone' products from Borland International and Microsoft Corporation, it has managed to retain its market position as the leader of the spreadsheet package. In comparison Lotus' other desktop products have enjoyed only moderate success, but the company is hoping to obtain a similar leading position with its new Notes product - which it hopes will become the 1-2-3 of the groupware product market.

Lotus' position as a leader in the business applications software market is directly due to the success of 1-2-3. It is the tacitly agreed standard for spreadsheets, because it was the first and the most used, and because it offers cross-platform compatibility. It is an unwritten requirement that any other spreadsheet on the market should provide 1-2-3 compatibility.

Lotus has a strong customer base. Its strength lies in its size and diversity. Lotus' product offerings (in particular its spreadsheet) appeal to a generic market, irrespective of company size or industry sector. The client base for 1-2-3 ranges from the business in a start up situation to the multinational corporation. It also has the added advantage of being available on a number of hardware platforms.

Another strength is its financial performance. Historically, Lotus has a good financial track record and has managed to perform very well over the last two years, reporting strong revenue and profit growth at a time when other vendors active in the same market have incurred losses.

The main challenge for Lotus, in the face of competitive pressure, will be to continue developing leading edge products in order to

maintain its position as the supplier of the industry standard
product.

Conclusions

Lotus entered the personal computing market in 1982 as a pioneer
in spreadsheet technology. Since then Lotus has expanded its
product line to encompass a broad range of applications software
across all major platforms, including spreadsheets, word processing,
graphic and electronic mail. This expansion has been achieved by
concentrated internal development and through mutually beneficial
joint ventures, mergers, partial acquisitions or full acquisitions of
advance products, technologies and companies. Once a product has
been acquired, it is fully incorporated into Lotus' product suite.
Likewise, personnel of companies acquired become integrated
members of Lotus' technology and support teams.

Lotus 1-2-3 remains the company's best selling product despite its
diversification into other business desktop products. Because of its
early success, 1-2-3 has become an industry standard product. Lotus
aims to capitalise on this success by exploiting increasing
connectivity between platforms. It is offering both a powerful
communications and development environment in its Notes product
and a suite of tightly integrated software products and information
services.

To retain its market position Lotus will need to continue developing
leading edge products. The company is addressing this through a
number of vendor alliances. The strategic alliances now being
formed by Lotus are aimed at ensuring that its business
communications products are technologically advanced and
available to users regardless of their current IT and networking
structures. Two such agreements have been made with Novell and
IBM.

Lotus and Novell are working closely together to integrate Lotus
cc:Mail and Lotus Notes further with Novell networks, with both
companies able to take advantage of future developments.
Although a planned merger between the two companies did not
materialise, the strategic alliance now in force assures customers
that the products will be interpretable, whether the suppliers are
one company or two.

The IBM alliance includes a marketing agreement as well as shared
technology. IBM will market both Lotus cc:Mail and Lotus Notes
as an integral part of its office environment strategy. It is expected
that sales of these products will increase greatly as a result.

**MCDONNELL DOUGLAS
INFORMATION SYSTEMS**
Boundary Way International
Hemel Hempstead HP2 7HU
United Kingdom
Tel: 44 442 232 424
Fax: 44 442 564 54

President: Jerry L. Causley
Number of Employees: c 1,800
Revenue (FYE 31-12-92): £ 159.7 million
(MDIS)

The Company

MDIS is an independent, British owned and managed information systems company headquartered in Hemel Hempstead, Hertfordshire. The company was formerly a subsidiary of the American aerospace company, McDonnell Douglas Corporation, and was sold to a group of U.K. investors led by Baring Capital Investors Ltd in January 1993.

The company produces and distributes Open Systems hardware and software products as well as a variety of application packages and services to central and local government, libraries, police forces, health care organisations, the manufacturing industry, financial institutions and commerce.

The world-wide profits of MDIS in 1992 were £ 19.4 million on revenues of £ 159 million, of which £ 117 million arose in the U.K. Approximately 8% of revenues are invested in research and development centres primarily in the United Kingdom, but also in the United States and Australia. MDIS employs approximately 1,800 personnel around the world with direct subsidiaries in Europe, the United States and Australasia. In parts of Africa, the Middle East and the Far East, the company operates through highly reputable distributors.

Subsidiaries exist in the following European countries: Austria, France, Germany, Ireland, Italy, Spain and Sweden.

In the U.S. and Canada its computer hardware is distributed by Novadyne Computer Systems. However MDIS sells and supports its rapid application development tools and international banking systems (IBS) directly in the U.S.

MDIS has OEM agreements with Digital Equipment Corporation, Motorola and Encore Corporation.

It also has new marketing and technological accords with Futjitsu in Japan and the Istituto per la Ricostruzione Industriale (IRI) in Italy.

Organisational Structure

MDIS is organised in several business areas:

· Commerce and industrial
· Health
· Finance
· Police
· Local Government
· Central Government
· Information Systems Engineering (ISE).

The principal activities of the company are the design, manufacture, sale, support and leasing of real-time or on-line interactive database computers, computer peripherals, tailor-made application software programs, networking products, and the provision of computer consultancy and software services.

All businesses except ISE sell systems manufactured at the MDIS factory in the U.K., as well as UNIX-based systems from Motorola.

Exhibit A

1993 EMPLOYEE CHART
MCDONNELL DOUGLAS INFORMATION SYSTEMS LTD.

REGION	APPROX. EMPLOYEE NO.
U.K.	1,300
INTERNATIONAL	500
TOTAL	**1,800**

Exhibit B

OTHER EXECUTIVES

NAME	POSITION
Jeremy J. Causley	Chief Executive
Doug Thomson	Marketing Director
Ian Knox	Financial Director
S N Vernon	Technical Director

 June 1993

Acquisition History

In the 1970s, the Computer Machinery Company of the U.K. (CMC) was bought by Microdata Corporation of the U.S. This combined hardware manufacturing operation was then bought by McDonnell Douglas in the late 1970s. In the 1960s, McDonnell Douglas had created McAuto Corporation to support all its internal EDP requirements. In March 1984, McDonnell Douglas bought Tymshare Inc., the operator of TYMNET.

Other acquisitions in the 1980s included:

· January 1985 - MDIS acquired Tymshare UK, the U.K. subsidiary of Tymshare Inc., from Unilever. Terms were not announced.

· April 1985 - MDIS acquired Applied Research Cambridge Ltd. of the U.K. for approximately $12.5 million. ARC specialized in CAD systems, with 1984 revenues of some $12 million.

· April 1987 - MDIS acquired Isis Computer Services of the U.K. for £3.3 million. Isis specialized in PICK software and applications for payroll, personnel, police and local government on McDonnell Douglas hardware.

In late 1986, MDIS and British Telecom of the U.K. (BT) tried a joint venture on EDI, but this was abandoned by both firms. In August 1989, MDIS announced the sale of the North American side of TYMNET to BT for $355 million. The turnover of the North American TYMNET operations was about $250 million.

In November 1991, MDIS sold its CAD/CAM products business to EDS.

Major Recent Projects

· Supply of a computer-based administration system for the Sergeant at Arms Office at the Palace of Westminster.

· Implementation of a £7 million Resource Management and Hospital Information System - including a facilities management contract serving the five hospitals of Clwyd Health Authority in the U.K.

· A $50 million hospital systems contract with the State of Queensland.

· Prime Contractor for a turnkey project valued at £4 million for a comprehensive Hospital Information System at Darlington District Health Authority in the U.K.

· Implementation of the second phase of a computer-based integrated Hospital Information System for the Bahrain Ministry of Health.

Key Products and Services

(i) Technology

Research and Development:

Approximately 8% of the company's revenues are invested in Research and Development in centres in the U.K., Australia, Spain and France.

The MCDONNELL Douglas manufacturing facility at Hemel Hempstead in the U.K. is housed in a £20 million complex' producing computer products for world markets.

Information Systems Engineering (ISE)

The company is one of very few Computer Aided Systems Engineering (CASE) vendors able to offer a total life-cycle software development environment of methodology, workbench and a fourth generation application generator - PRO-IV.

ProKit*WORKBENCH is for the analysis and design phases of software development, and the McDonnell Douglas Fourth Generation Language (4GL), PRO-IV, interfaces with it to produce application code.

Many international corporations have adopted PRO-IV as an Open Software solution to protect existing hardware and software investments or multiple hardware platforms, often inherited through acquisition or merger.

(ii) Key Application Products

The company produces a range of powerful mini and supermini computer hardware at its factory in the U.K. These systems form part of a company's Open Systems strategy and, in addition to high performance hardware, provide applications solutions for the company's specific markets. These applications will operate either under UNIX or under the company's Reality Operating System (a super-set of the PICK operating system) to suit the needs of the customer.

MDIS's modular portfolio of Human Resource software encompassing personnel, payroll and pensions is a "horizontal"

series of applications covering all the markets in which the company operates.

The software will operate at any level, from PCs to superminis, and meets the specific, diverse functional needs of organisations, from police forces to major banks and from local government and hospitals to manufacturers and distribution companies.

MDIS has issued nearly 500 licences for its Human Resources software.

The McDonnell Douglas URICA Library Systems is acknowledged as a de facto European standard for automated library systems. Customers include: Universities of Southampton, Bath, Bradford and Limerick; Natural History Museum and National Library of Wales.

(iii) Industry Knowledge

Apart from its ISE division MDIS is organised into business areas targeting the following sectors.

Commercial and Industrial

In the commercial and industrial sectors, the company's systems are used by many of the world's leading commercial, manufacturing and distribution organisations for a variety of applications from the essentials of Human Resources (HR) management to sophisticated process manufacturing techniques.

With its MATRIX systems, MDIS provides a totally integrated environment designed to support manufacturing and distribution organisations. MATRIX is designed to help companies reduce overheads, shorten lead times and cut unit costs.

Health

MDIS is a leading supplier of Hospital Information Systems, developed specifically to meet the requirements of the U.K. National Health Service, where it has over 260 customers, as well as health care customers in Australia, Hong Kong, the Middle East, Spain and Italy.

The company's systems cover a range of applications and specialities, including Patient Administration, Order Communications, Payroll, Radiology, Pharmacy and Pathology.

At the beginning of 1991 MDIS formed a partnership with Italy's largest state-owned conglomerate, Istituto per la Ricostruzione Industriale, to market health systems in Italy.

MDIS supplies a third of U.K. ambulance services with command and control systems for Emergency and Patient Transport Services. The company has recently been awarded a contract by the Scottish Ambulance Service for the ALERT emergency system, which is to be used throughout Scotland.

Banking and Finance

In the financial sector, MDIS has a strong presence in Australasia, the U.K., France and Germany.

Sales of its Integrated Banking Systems (IBS) are increasing, the most recent being the Treasury services arm of Abbey National Plc.

The portfolio of products being marketed has been extended and now includes confirmation management, futures and options. A complete confirmation management system has made its mark with a 16-site, world-wide contract for Barclays Bank, and subsequently with Baring Brothers, Hill Samuel and Mitsubishi Bank.

Police

The company pioneered the development of software now used by Britain's police forces in major incidents such as murder and rape investigations. The system - called MICAH (Major Incident Computer Applications conforming to HOLMES) - has seen operational use in many hundreds of investigations, with considerable success. MICAH has also been installed by Police forces in Australia, Hong Kong and the U.S.

Another major development is CRISIS - a Casualty Recording Information Sorting and Identification System.

14 of the U.K.'s 52 police forces use MDIS's Human Resource applications.

In May 1993 MDIS announced that it had been awarded the first FM contract awarded by a Police Force, by Devon and Cornwall Constabulary.

Local Government

A particular stronghold of MDIS is in Local Government where, as one of the leading suppliers, it provides a complete range of

computer-based solutions to address issues such as Competitive Tendering, Revenue Systems, Finance, Housing, Planning and Asset Management. Over 190 U.K. Local Authorities use systems from MDIS.

Central Government

MDIS has supplied over 250 computer-based systems to central governments.

The company's Human Resource Management systems are currently being used by 12 government departments.

Financial Information

Exhibit C

MCDONNELL DOUGLAS INFORMATION SYSTEMS LTD. (MDIS)
FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (# MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenue	131	144	155	175	160
Annual Growth Rate (%)	8	10	8	13	(9)
Profit before tax	26	24	16	16	19
Annual Growth Rate (%)	(10)	(8)	(33)	0	19

Source: MDIS

Note: Numbers are rounded

Market Analysis

Exhibit D

1992 MARKET ANALYSIS BY INDUSTRY SECTOR

INDUSTRY SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Discrete Manufacturing	45	25
Process Manufacturing	15	8
Transportation	5	3
Utilities	5	3
Telecommunications	5	3
Retail Distribution	5	3
Wholesale Distribution	10	6
Banking and Finance	5	3
Health care	20	11
Local Government	30	17
National Government	5	3
Business Services	5	3
Other Industries	5	3
Cross-Industry Sectors:		
Human resources	15	8
Systems Software Products	5	3
TOTAL SOFTWARE AND SERVICES	180	100

*INPUT estimate

Exhibit E

1992 MARKET ANALYSIS BY DELIVERY MODE

DELIVERY MODE	REVENUES* ($ MILLIONS)	PERCENT
Systems Software Products	5	2
Application Software Products	20	8
Turnkey Systems	120	50
Professional Services	30	13
Systems Integration	5	2
Total Software and Services	180	75
Equipment Services	60	25
Total Information Services	240	100
TOTAL EUROPEAN REVENUES	**240**	**100**

* INPUT estimates

             June 1993

Exhibit F

1992 MARKET ANALYSIS BY GEOGRAPHICS REGION

REGION	REVENUES* ($ MILLIONS)	PERCENT
France	35	15
Germany	10	4
U.K.	180	75
Netherlands	2	1
Belgium/Lux'	7	3
TOTAL INFORMATION SERVICES	**240**	**100**

*INPUT estimates

**Company
Strategies**

(a) Company Direction:

1992 was tough year because of general economic conditions but
market share has been maintained.

In line with policy, there was a focus on software and services, which
contributed 58% of revenue, rather than computer hardware.
Further investment in application software is expected in 1993.

(b) Strengths and Weaknesses:

MDIS's main strengths can be summarised as follows:

· Strong sales and customer orientation

· A wide range of popular application packages

· A strong vertical focus

· Strong skills in Pick-related software.

MDIS possesses a strong management who are clearly very
customer-driven and who respond quickly to changes in their
customers' markets. The company supplies a range of applications
which have been developed specifically to address key issues in its
clients' businesses such as competitive tendering in U.K. local
government and new requirements in the health care sector.

MDIS has a strong vertical focus, particularly in Local Government
and in the Health Sector, where its industry knowledge and
expertise in supplying solutions have made the company a leading
supplier.

COMPANY PROFILE

MICROSOFT CORPORATION

1 Microsoft Way
Redmond, WA 98052-6399
U.S.A.
Tel: 1 206 882 8080
Fax: 1 206 936 7329

Chairman and CEO: William H. Gates
Status: Public
Number of Employees: 12,000
Revenue: (FYE 30-6-92) $2.8 billion,
($1.0 billion Europe)

EUROPEAN HEADQUARTERS
MICROSOFT EUROPE
60 Avenue de President Wilson
Cedex 70
92046 Paris La Defense
France
Tel: 33 1 69 86 46 46
Fax: 33 1 64 46 06 60

The Company

Microsoft was formed in 1975 by Bill Gates and Paul Allen. It was responsible in 1981 for supplying the operating system MS-DOS for the IBM PC. MS-DOS is now installed on in excess of 50 million PCs.

Since then the company has developed a wide range of PC and Apple Macintosh applications software for business and professional use, in addition to programming languages, operating systems and networking software.

Microsoft is now one of the largest software houses in the world with a $2.8 billion 1991 turnover. Although founded in the United States, Microsoft has subsidiaries throughout the world, and its international revenues exceed those of the United States, accounting in 1992 for 55% of overall company activity.

Microsoft offers more than 75 products in 25 languages. It employs more than 12,000 people in 27 countries around the world.

Microsoft is clearly focused on the PC Market. Its vision is to see a computer on every desk.

Microsoft has its corporate headquarters in the U.S. Its European operations are headquartered in Paris. Microsoft has 13 subsidiaries in Europe. These are located in Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the U.K.

To consolidate its European operations and to prepare for the changing European business climate during the 1990s, Microsoft has centralised many operations at its Paris headquarters, headed by European President Bernard Vergnes. This office works closely with the European subsidiaries to coordinate product and support decisions.

Financial Information   Exhibit A

FIVE-YEAR FINANCIAL SUMMARY FOR MICROSOFT CORPORATION (FYE 30-6)

	1988	1989	1990	1991	1992
Revenue ($ Millions)	590.8	803.5	1,183.4	1,843.4	2,758.7
Annual Growth Rate %	71	36	47	56	50
Profit Before Tax ($ Millions)	-	250.8	410.6	670.6	1,041.3
Annual Growth Rate %	-	-	64	63	55
Profit After Tax ($ Millions)	123.9	170.5	279.2	462.7	708.1
Annual Growth Rate %	72	38	64	66	53

Source: Microsoft

Market Analysis   Exhibit B

1992 MARKET ANALYSIS BY GEOGRAPHIC AREA

Revenue ($ Millions)	U.S. Operations	European Operations	Other International Operations	Eliminations	Total
Customers	1,492.6	1,008.5	257.5	-	2,758.7
Intercompany	384.8	497.9	14.2	(896.8)	-
TOTAL	1,877.4	1,506.4	271.7	(896.8)	2,758.7

Source: Microsoft

       October 1993

Domestic operations: revenues from customers includes export revenues of $254.7 million. The majority of this export revenue results from OEM distribution in the Far East and Europe.

Exhibit C

MICROSOFT INTERNATIONAL REVENUES
($ MILLIONS)

	1989	1990	1991	1992
European Operations	212.0	363.3	697.7	1,008.5
Other International Operations	72.5	102.5	171.3	257.6
Export	153.8	184.4	187.7	254.7
Total	438.3	650.2	1,056.8	1520.8
Percent of Total Revenues	54.5	54.9	57.3	55.1

Source: Microsoft

Exhibit D

1991/92 MARKET ANALYSIS
BY PRODUCT GROUP

	1991 REVENUE ($ MILLIONS)	1991 PERCENT	1992 REVENUE ($ MILLIONS)	1992 PERCENT
Systems/Languages	663.6	36	1,103.5	40
Applications	940.1	51	1,362.5	49
Other	239.7	13	292.7	11
TOTAL	1,843.4	100	2,758.7	100

Source: Microsoft

Other revenue in 1992 includes $254.2 derived from sales of Microsoft Mouse and BallPoint mouse pointing products.

Exhibit E

1991/92 MARKET ANALYSIS BY SALES CHANNEL

	1991 REVENUE ($ MILLIONS)	1991 PERCENT	1992 REVENUE ($ MILLIONS)	1992 PERCENT
International finished goods	903.3	49	1,309.9	47
OEM	331.8	18	476.8	17
Domestic Reseller	571.4	31	925.9	34
Other	36.9	2	46.1	2
TOTAL	1,843.4	100	2,758.7	100

Source: Microsoft

Exhibits G, H and I show INPUT's estimated breakdown of Microsoft's 1992 European Software and Services revenues by industry sector, delivery mode and by country, respectively. These have been adjusted to account for the full calendar year of 1992.

Exhibit F

ESTIMATED REVENUES BY DELIVERY MODE
SOFTWARE AND SERVICES, EUROPE, MICROSOFT, 1992

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	740	58
Application Software Products	510	40
Professional Services	30	2
Total Software and Services	1,280	100

Source: INPUT estimates

 October 1993

Exhibit G

ESTIMATED REVENUES BY COUNTRY
INFORMATION SERVICES, EUROPE, MICROSOFT, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	280	22
Germany	310	24
U.K.	170	13
Italy	140	11
Netherlands	70	5
Belgium/Lux'	38	3
Spain	54	4
Switzerland	56	4
Austria	22	2
Sweden	35	3
Denmark	26	2
Norway	18	1
Finland	15	1
Ireland	13	1
Portugal	4	<1
Greece	6	<1
Eastern Europe	19	1
Total Information Services	1,280	100

Source: INPUT estimates

**Organisational
Structure**

Exhibit H

MICROSOFT KEY EXECUTIVES

William Gates	Chairman and Chief Executive Officer
Mike Maples	Executive Vice President Products
Steven Ballmer	Executive Vice President Sales and Support
Bernard P. Vergnes	VP Microsoft President Microsoft Europe

Products and Services

Microsoft operating systems include MS-DOS, Windows, Windows for Workgroups and Windows NT. MS-DOS, introduced in 1981, is now claimed by Microsoft to run on 90 million PCs round the world. In 1990 Windows 3.0 was released, and Version 3.1 followed in 1992.

Windows is claimed to run on 10 million computers. Windows for Workgroups, also introduced in 1992, combines the popular Windows 3.1 with easy-to-use networking, making it easier for people to share information and work better together. The next step in Windows development was the multitasking Windows NT designed for advanced network workstations in corporate environments. This was introduced in May 1993.

Windows has also attracted other developers in the software industry. More than 1,200 applications have been introduced by more than 700 developers, including industry leaders such as Lotus, Borland, Software Publishing and Symantec.

Microsoft also produces application software and is a leading application vendor for the MS-DOS and Windows environments. Its products include: word processing (Word), spreadsheet (Excel), messaging (Mail), database (Access and FoxBASE), project management (Project), presentation graphics (PowerPoint), integrated software (Works) and combined software (Office). In addition, Microsoft supports versions of its leading packages for the Apple Macintosh System 7 operating system. These are Works, Word, Excel, Project, Powerpoint and Office.

In the past year, Microsoft released 48 new products into the marketplace, including well over 100 international versions. Among these Microsoft sees particular significance in new releases of Manager, SQL Server, and DCA/Microsoft Communications Server. These products help companies downsize applications that have historically run only on expensive mainframes and minicomputers and have kept Microsoft, as the company sees it, at the forefront of client/server technology. In addition, these products have connected people to centralised corporate information, allowing them to easily capture and review information.

As well as developing commercial applications, Microsoft also recognises the needs of "Solution Providers," and of corporate and professional developers producing custom programs for Windows. To serve their needs, Microsoft produces the Visual Basic programming system, a development language which automates program creation. Other Microsoft development languages include Basic, C, C++, FORTRAN, COBOL, Pascal, MacroAssembler and certain "quick" languages.

     October 1993

Other Microsoft products include:

- Microsoft BallPoint mouse, a pointing device designed for notebook and laptop computers.

- Specifications for the Multimedia Personal Computer, developed by Microsoft in cooperation with many hardware and software companies interactive applications for Windows. The company's Multimedia Publishing group develops and markets multimedia titles for business, home and school.

- Microsoft Windows for Pen Computing, designed to bring the windows environment to computers that are controlled with an electronic pen. Leading developers (such as Borland, Lotus, Oracle, PenSoft and Slate) support Windows for Pen Computing with their applications.

- The Microsoft Solution Series of products geared for use at home and in growing businesses. Products in the series include Microsoft Works, Publishes and Money.

Support Services

Microsoft also offers support services. These are divided into three divisions.

- Microsoft Product Support Services provides technical support for all of the company's products and utilities.

- Microsoft Education and Consulting Services, Microsoft University, attended by more than 20,000 developers and DP professionals since 1987, offers hands-on technical training. Microsoft Consulting Services provides customers with strategic advice about IT planning and implementation of solutions.

- Microsoft Press is the company's book publishing division. It has more than 123 titles in print with more than 100 of these published in 16 languages.

New Business Model

In May 1993 Microsoft announced a broad new initiative to support businesses integrating Microsoft software into a wide range of personal computing solutions. Microsoft will offer direct access to Microsoft tools, support and information for companies in the business of selling value-added software services to customers, as the first element in this strategy.

The new strategy, called the Microsoft Solution Providers Initiative, forms the foundation of a new business model from Microsoft. It represents a long-term strategic shift towards building business relationships with value-added software and services organisations. The program is designed to make it easier and more profitable for these businesses to better serve their customers. Microsoft will be authorising Solution Providers to coincide with the broad availability of Windows NT.

Support will be offered to five types of company: consultants, systems integrators, value-added resellers, training and support organisations. The program offers sales and product information, development services, customer support tools such as priority telephone support, education and business development support and early access to new products.

Company Strategies

(a) Company Direction

Microsoft is clearly focused on the PC market, though it is now also intent on entering the server sector. The company's products span the applications, networking, systems and languages arenas. Recently, Microsoft has become increasingly known for its Windows graphical user interface and an impressive range of business applications.

While many factors have contributed to recent high growth results, three are particularly noteworthy.

- The growing adoption of the Microsoft Windows graphical environment.

- Success in Microsoft's international sales channel - where finished goods grew faster than in the U.S.

- Continuing strength and product development in the company's key businesses, which include operating systems, applications products and pointing devices - and the ongoing shift towards desktop PC solutions, in place of old-style mainframe-based alternatives.

Microsoft's current and future strategy is to shape how it does business around the realities of the market and the demands of its customers.

Microsoft aims to respond to these challenges by investing in key technologies and by using sales and marketing resources to rigorously promote its products. The company believes that these activities are essential to realising its long-term corporate strategies and keeping the company at the forefront of the industry.

As part of this investment, Microsoft has centralised many of its European operations at its Paris Headquarters, to serve the changing European marketplace. Additionally, to underscore increasing emphasis on supporting customers, Microsoft has expanded and centralised its product support function.

Toward that end, Microsoft is concentrating on building a better sales presence in Europe to solidify relationships with large accounts. It is investing heavily in training for staff on customer service and technical needs in the pan-European environment.

(b) Strengths and Weaknesses

Microsoft's main strengths include:

- Dominance of the PC markets

- Strong management team

- Technologically innovative

- Effective distribution strategy

Microsoft's primary strength is its dominance of the PC marketplace. Microsoft has gone from strength to strength since it was first launched in 1975. Its MS-DOS operating system is installed on over 50 million IBM PCs and their clones, and it has established itself as a leader with OS/2. Microsoft has also performed well in many sectors of the huge market for PC applications software, in particular in the spreadsheet and WP areas. Microsoft is the leader in total PC software sales.

Microsoft has a strong management team led by its dynamic CEO, William Gates. Gates is considered to be the most powerful man in the PC industry. He has directed and led Microsoft from its infancy to its present position as a billion dollar corporation. Microsoft management pride themselves on their customer-driven approach and have recently restructured the company into five product divisions to meet the demands of the market. The company keeps a watchful eye on market developments and is prepared to continually reshape its business to satisfy customer needs.

Microsoft has built a reputation as a technologically innovative company. It supplies IBM with its MS-DOS operating system - setting an industry standard - developed OS/2 and successfully moved into the applications solutions market with a number of quality products.

Microsoft was also among the first companies to make a commitment to the Graphical User Interface (GUI) and to developing the graphical applications for the Apple Macintosh PC.

In addition, Microsoft Windows has also spurred others in the software industry, with the release of more than 1,200 Windows-based applications from more than 700 developers, including products from Lotus, Borland, Software Publishing and Symantec.

Microsoft possesses another strength in its successful distribution strategy. For example, in just one year, Microsoft distributed more than six million copies of Microsoft Windows 3.1 around the world, through reseller channels, upgrades to existing customers and hardware manufacturers.

While product licenses are sold through distributors, Microsoft keeps control of upgrade licences, introducing a significant upgrade each year and selling directly to the client. Thus, upgrades contribute quite significantly to overall revenues, in fact probably more than the sales of the original product.

Microsoft looks set for further growth. However, the company is expecting growth to slow significantly in 1993/1994 as the PC software market begins to show signs of saturation. Customers are not as easily convinced that they should upgrade to the next version of a product if this also means replacing their hardware. Performance could also be affected if Microsoft's moves into the database market prove more costly than anticipated and if it does not gain a significant share of this market.

Conclusions

Microsoft has built its reputation around the MS-DOS operating system. During its history the company has become universally recognised as playing a key role in the development of the PC industry through its innovative product development.

Aside from its applications, Microsoft is a major producer of software development tools and has also moved into the connectivity area with the development of networking software.

1993 saw the company launch its Windows NT operating system for the client/server market. Initial market enthusiasm has been tempered a little by commercial considerations. It now looks as though Microsoft will provide several choices of product in the operating system market. It will need to use all its marketing skill to displace UNIX (and Novell's UNIXWARE) from its strong position in the European server markets.

The acquisition of Fox Software heralded Microsoft's entry into the database management software field, one of the few categories of desktop computer software in which it did not compete. It also launched its Access personal database product in 1993.

 October 1993

With its acquisition of Fox and entry into the database market, Microsoft will compete directly with Borland International, the leading maker of database software for PCs. Microsoft has been eager to get into the database business for a long time and in the past has proved willing to lose huge amounts of money to gain market share in new business areas. Thus, it is probable that its entry will see a price war in the database market not least between Microsoft and Borland.

In fact, the similarities between the two companies are striking. They are the only major firms in the PC software business that have competed effectively in more than one product category. Both pride themselves on their technical acumen and corresponding ability to attract and keep engineering talent. Also, both are led by intensively competitive men who have demonstrated the rare ability to build a company from scratch and then manage a large and complex organisation.

Microsoft plans to offer customers a complete family of superior scalable database applications and development environments. If it succeeds and obtains significant market share - it is possible that it could take over from Borland as the leader in the database market.

COMPANY PROFILE

NOVELL, INC.
Corporate Headquarters
122 East 1700 South
Provo, UT 84606
USA
Tel: (801) 429-7000
Fax: (800) 429 5555

International Headquarters
Novel International Operations
890 Ross Drive
Sunnyvale CA 94089
USA
Tel: (408) 747 4102
Fax: (408) 747 4017

President: Raymond Noorda
Status: Public
Number of Employees 3,637 (worldwide)
Revenue (FYE 30-10-93): $1,123 million (worldwide)
$380 million (Europe) INPUT estimate.

The Company	Novell, Inc., was founded in 1983 and is listed on the NASDAQ Exchange.

Novell is an operating systems software company and a developer of network services and specialised and general purpose operating system software products, including NetWare and DR DOS. Novell's NetWare network computing products manage and control the sharing of services, data and applications among computer workgroups, departmental networks and across business-wide information systems.

Novell's products are used across all industries, from small businesses to government, higher education and large commercial organisations. In 1983 Novell employed 14 people; today it employs more than 3,000 people in 49 locations worldwide. While product development is focused in California and Utah--the company's headquarters--international operations are the fastest growth area for Novell.

International sales represented 44% of turnover during 1991, with the figure exceeding 50% for the first time at the start of 1992. 70% of international sales were in Europe. 1993 details were not available for inclusion in this profile.

Financial Information

Exhibit A

NOVELL CONSOLIDATED REVENUES
FIVE-YEAR FINANCIAL SUMMARY ($ MILLIONS)(FYE 30-10)

	1989	1990	1991	1992	1993
Revenue	422	498	640	933	1123
Annual Growth rate(%)	22	18	29	46	20
Profit before Tax	72	134	226	357	-
Annual Growth rate(%)	33	86	69	58	-
Profit after Tax	49	94	163	249	-35
Annual Growth rate(%)	35	94	72	53	-
Employees	2,120	2,419	2,843	3,637	-

Source: Novell

Novell's 1993 performance was significantly down on 1992.
Revenues rose by only 20% compared to 46% a loss resulted from
a one-time charge of $320 million related to the acquisition of
UNIX Systems Laboratories Inc.

Market Analysis

INPUT's estimates of Novell's 1993 European Software and
Service revenues, broken down by INPUT Delivery Mode and by
Country are given in Exhibits B and C below:

Exhibit B

Estimated Revenues by Delivery Mode, Software and Services, Europe,
Novell, 1993

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	360	96
Total Information Services Equipment/Other Revenues	360 15	96 4
Total European Revenues	**375**	**100**

Source: INPUT estimates

Exhibit C

**Estimated Revenues by Country, Information Services, Europe
Novell, 1993**

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	80	22
Germany	95	26
U.K.	45	13
Italy	40	11
Netherlands	22	6
Belgium/Lux'	12	3
Spain	16	4
Switzerland	16	4
Austria	6	2
Sweden	9	3
Denmark	8	2
Norway	3	1
Finland	5	1
Ireland	4	1
Portugal	1	<1
Greece	1	<1
Total Information Services	**360**	**100**

Source: INPUT estimates

**Organisational
Structure**

The worldwide operations of the corporation are directed from
Novell's corporate headquarters in Provo, Utah, USA. There is an
International Headquarters in Sunnyvale, California. However,
each of the subsidiary companies is managed as a semi-
autonomous unit. There is, therefore, no European headquarters,
although the International Headquarters includes a European
Vice President to oversee European operations.

Novell has subsidiaries in the following European countries:

- Belgium
- France
- Germany
- Italy
- Spain
- Sweden
- Switzerland
- United Kingdom

It has recently opened an office in Eastern Europe and has other
international offices in Hong Kong and Australasia. It also co-
owns Novell Japan in conjunction with a consortium of: Canon;
Fujitsu; NEC; Sony; Softbank; and Toshiba.

Novell's distribution is carried out through a two-tier system of distributors and value-added resellers (VARs), with no direct sales operation of its own. By far the bulk of its business is effected through the distributors.

There are currently 70-80 distributors in Europe. Key examples are:

Frontline   UK
Merisel   France
Computer 2000   Germany

Acquisitions/ Alliances

Novell has made a number of acquisitions in its 10-year history. These include:

In November 1986 Novell acquired Santa Clara Systems, a Silicon Valley manufacturer of storage subsystems and local area network products.

In March 1987 Novell acquired CXI of Sunnyvale, California, a developer of LAN-to-host gateway software.

Also in March Novell acquired Softcraft of Austin, Texas, a developer of database and programming tool software.

In June 1989 Novell acquired Excelan of San Jose, California, a producer of network hardware and protocol software, a leader in UNIX, Apple Macintosh and standards-based networking. The acquisition brought Novell seven years of open systems experience with data communications protocols.

In October 1991 Novell acquired the US. company Digital Research, Inc. (DRI). Based in Monterey, California, DRI is a PC operating software developer, which produces a clone of Microsoft DOS.

In June 1992 Novell acquired Annotek Systems.

At the end of 1992 Novell initiated acquisition of the majority shareholding in AT&T subsidiary UNIX System Laboratory (USL), and with it the rights to the UNIX System V operating system. Novell had already purchased a 5% stake in USL in 1991. The deal involved the issue of 11 million Novell common stock shares in exchange for the outstanding stock.

In January 1993 Novell purchased a minority share (20%) in HyperDesk, to obtain access to its Distributed Object Management System.

Early in 1993 Novell signed an agreement with AT&T covering the joint development and marketing of telecommunications products, in particular those in telephony and networked computing.

The results of a joint venture with Oracle have now reached market as OracleWare, a tightly integrated database for networked systems.

Key Products and Services

Although NetWare, the Network Operating System represents Novell's main product, it offers products and services in the following areas:

- Network operating systems products
- Network services products
- Communications services products
- Inter-networking products
- Network connectivity options
- . Network management products
- Distributed applications development tools
- Support and education programmes

Technology

The Novell Integrated Computing Architecture (NICA) is the strategic architecture upon which Novell products are built. NICA represents Novell's approach to providing network services for application integration in a distributed, multivendor environment. With NICA, Novell is delivering a unified, open software solution that allows new and existing applications to share information and system resources regardless of the applications involved, where they reside, or the vendor platforms on which they may reside.

Novell's architecture for distributing network services allows products and applications from several different vendors to be integrated into a powerful network computing system. Some of the products and facilities distributed by the services within the Novell Integrated Computing Architecture are illustrated in Exhibit D:

Exhibit D

Novell Integrated Computing Architecture (NICA)

SERVICES	PRODUCTS
File and print	DOS, Macintosh, OS/2, UNIX native file and print access
Database	Integrated record manager and SQL, third-party SQL
Communications	IPX/SPX, SNA, TCP/IP, AppleTalk, OSI, TI, X.25, asynchronous
Messaging	MHS, X.400, SMTP, SNADS/DISSOS
Client operating system	DOS, Windows, OS/2 EE, UNIX, Macintosh
Application server operating system	OS/2, UNIX, MVS, VM, VMS, DOS
Data integrity	Disk mirroring, server mirroring etc.
Security	User, administrator, data, resource, encryption, workstation auditing
Network management	Workgroup, administrator, enterprise, NetView
Connection	Built-in IPX and TCP/IP router
Multivendor platform	Thousands of servers, adapters, disks, backup systems
Application program interfaces	NetWare, NetBIOS, CPI-C, Named Pipes, Berkeley Sockets

Network Operating Systems Products

Novell's server operating systems provide high-performance
network computing solutions to a variety of business needs. The
server operating system, also referred to as the network operating
system, resides in the server and provides the connectivity that
completes the computer system, creating the environment in which
the network operates. File and record locking, security, print
spooling and inter-process communications are just a few
examples of the functions the network operating system provides
to the network and the applications running on it. The network
operating system also determines the performance, multivendor
support security and reliability of the network.

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NetWare operating systems are designed to optimise the key components of network functionality, including the network operating system architecture, performance, reliability, security and standards support.

Novell offers the following network operating systems products:

- Workstation connectivity products
- Database services products
- Messaging services products

Network Service Products

NetWare Lite is the low-end product, a DOS-based product designed to run on small peer-to-peer PC networks with or without server.

Novell first supported network services as client-server applications in NetWare v2.1 through the value-added process (VAP) interface. The VAP interface allows client-server application engines to run in the NetWare server with NetWare. Today, the VAP interface is available in v2.2 of the operating system and supports a variety of network services, catering primarily for the small business user, professional offices and workgroups.

NetWare v3.11, the high-end product, is aimed at company-wide systems and contains a set of programming interfaces and tools for network services. With NetWare v3.11, client-server applications run as NetWare Loadable Modules (NLMs). NetWare v3.11 provides the additional power needed to support heavily used network services in the server. Version 4.0 is an upgrade to this and offers 1000+ user network capability, extra fault tolerance, image processing and other enhancements.

NLM applications have full access to NetWare security. An application can create its own security in the NetWare environment or map directly into the security profiles defined by the network manager for each user. The NLM interface provides a standard programming environment, making NLMs as easy to develop and test as DOS applications. Because of the modular architecture in NetWare v3.11, NLMs can be loaded and linked to the operating system without downing the server.

Communication Products

Novell offers a comprehensive set of communications products that are fully integrated with the NetWare environment. These

products provide the business-wide connectivity capabilities needed to support network computing.

Novell's communications products are divided into three groups:

- LAN-to-IBM host connectivity products
- Dial-in/dial-out connectivity products
- Communication Services management products

NetWare Communications Services is a family of Novell products that give users access to host resources and wide area networks. It is a completely integrated LAN communications system designed to support any combination of LAN-to-host, LAN-to-LAN or remote LAN access services. NetWare Communications Services products currently available are NetWare for SAA and NetWare Asynchronous Communication Services (NACS).

NetWare Communication Services products provide complete hardware independence to communications services users. They are designed to support the most popular desktop operating systems, including DOS, Windows, Macintosh, OS/2 and UNIX workstations. In addition, users can access host resources and wide area networks via a variety of external connections, including SDLC, Token-Ring, X.25, ISDN, TI and asynchronous lines.

Inter-networking Products

Novell's inter-networking products tie local NetWare networks into wide area networks, assisting customers as they expand their computing resources. The software products run on industry standard hardware and provide real-world solutions.

Novell currently offers three inter-networking products: NetWare Link/64, NetWare Link/TI and the NetWare Multi-Protocol Router-Basic Version 1.0.

The Link products enable customers to interconnect geographically remote NetWare networks. The Multiprotocol Router connects Ethernet, Token-Ring, LocalTalk and Arcnet networks together in any combination and provides transparent access to file servers, printers and mail systems. It enables users to remove the routing function from the file server processor, which can improve server performance.

Network Connectivity Options

Novell offers users a variety of TCP/IP connectivity options for DOS, Windows, OS/2 and Macintosh users with its LAN

WorkPlace products. These products allow users to access
NetWare servers and TCP/IP host resources simultaneously.

Network Management Products

Novell has focused on providing management of its own products
since NetWare was first released in 1982. Network management
capabilities have been built into administrative utilities such as
NetWare Remote Management Facility, NetWare Name Service,
FCONSOLE, SYCON and Filter. In 1992 Novell introduced a
new network management product, the NetWare Services
Manager.

Novell also offers products that are not restricted to the Novell
environment. These include the LANtern network monitor and
LANalyzer, a network analyser.

Distributed Application Development Tools

Novell's support for client-server database applications is provided
in NetWare Btrieve and NetWare SQL Developers Kit. NetWare
Btrieve is a server-based, key-indexed record manager, while
NetWare SQL provides direct relational access to Btrieve-based
data.

Available in VAP and NLM configurations, both products are
designed to run as application back ends, providing database
server operations for third-party front-end applications. Novell
also provides client-based versions of both the NetWare Btrieve
and NetWare SQL engines. The client-based versions of these
products run in a variety of workstation environments and can be
distributed without royalty fee.

Support and Education Programmes

Novell support and education programs promote network
computing expertise in the distribution channels and increase co-
operative development with technology partners. In addition,
Novell offers training courses designed for each segment of the
network computing industry.

Users can choose to provide their own support using information
products like NetWare, the NetWare Support Encyclopaedia
(NSE) and NetWare Application Notes. These products provide
up-to-date technical information, drivers and utilities. Novell also
provides advanced training for on-site support personnel through
Novell education programs. Or, if users prefer not to hire full-
time support personnel, their local Novell Authorised Resellers

can provide qualified staff to handle technical problems. Novell Authorised Resellers are encouraged to provide product service and support directly to their customers.

To help customers keep current with the latest NetWare technology, Novell offers NetWare UpGrade and NetWare Maintenance. If customer concerns are not being solved through normal service channels, Novell's Customer Satisfaction department works directly with the customer to find a solution.

Novell has established education programs to help users maximise their NetWare productivity and train service providers to effectively support NetWare products. Training programmes include:

The Certified NetWare Engineer (CNE) programme, which helps improve the technical support offered by resellers and service providers.

The Novell Authorised Education Centre (NAEC) programme provides educational resources for training NetWare users and CNE conditions.

Strategic Analysis

(a) Company Direction

Novell's overall direction and approach, whether supporting customers or developing products, is simply put in its mission statement. Novell's mission today, as it was when the company began in 1983, is to *accelerate the growth of network computing*.

The company is committed to providing network computing solutions that support and enhance all industry standards and that are flexible, powerful and reliable enough to meet clients' current and future business needs.

Novell takes pride in being a customer-driven company and steadily makes product development decisions in response to changing customer needs.

Novell has made many developments to meet customer needs in the 1990s including an expanding array of NetWare network services products and new partnerships with computer systems vendors. These steps are helping lead the change toward seamless integration of mainframes and minicomputers with workstations and desktop systems.

To further address customer service needs, Novell has created the
Technical Support Alliance, an innovative new vehicle for
delivering comprehensive multivendor service and support to users
of computer networks. TSA is an inter-company system for
quickly resolving problems through a network of service. More
than 30 leading computing products vendors have joined the
program since it was launched in the spring of 1991.

By definition, network computing brings together a complex array
of products, creating a need for systems-oriented service and
support. To provide reliable and expert customer support, Novell
has created a multilevel service organisation to give users a choice
of service plans. Novell provides customers with the tools, training
and backup they require to be self-sufficient.

Novell views information infrastructure as important to effective
customer support and the growth of network computing.
Accordingly it is expanding education, training and service
programmes to provide consistent levels of support to customers
around the globe. To date more than 11,000 people have earned
Certified NetWare Engineer (CNE) status through training
available from 650 Novell Authorised Education centres
worldwide.

(b) Strengths and Weaknesses

Novell's main strengths can be summarised as:

· Strong Market Position
· Strong Technological Innovation
· Customer-driven
· Large installed base
· Broad range of networking products

Novell has established a clear position of leadership in the
networking operating systems arena. It has made a successful
transition from the equipment market to the software market. In
fact, its success has been so great that Novell now has an estimated
70% market share for networking operating systems.

Novell is an industry innovator and has played a major role in
accelerating the growth of network computing. Novell's
commitment is to continue its leadership in this field, acting as a
catalyst to grow the industry. Between 1983 and 1991 the company
had no fewer than 36 technological firsts, which placed it at the
forefront of networking.

Computing Market

Novell is a customer-driven company. Its objective is to meet customer needs. This objective drives Novell's development of new products, whether network services or client operating systems and its partnerships with vendors and others across its market.

Novell has a large customer base with more than 12 million users on NetWare LANs worldwide. Over 20,000 customers, both commercial and private developers, use Novell's Btrieve and NetWare SQL database enquiries.

Novell has assembled a balanced array of networking products for a wide variety of computing needs--from the smallest workgroup of desktop computers to departmental systems and the largest business-wide environments. The company's products support standards to integrate DOS, OS/2, Windows, Apple Macintosh and UNIX desktop computers with each other and IBM, DEC and UNIX hosts.

Novell is still seriously threatened by the ambitions of Microsoft, particularly in the area of network operating systems.

(c) Conclusions

Novell is a market-driven software company dedicated to the development of high-performance network computing products.

Novell has established and maintained a position of leadership in the network environment. This has been achieved through a focus on developing products that customers want and through its industry partner approach.

The merger of Novell and Digital Research in 1991 is a central part of Novell's effort to respond to customer needs for client operating system software that is very tightly integrated with network services such as network management. Its acquisition of USL and thereby of UNIX bodes well for networked UNIX on the desktop.

This central role as an operating systems software company means that Novell is well positioned to work with leading vendors across the industry, such as systems and network suppliers, systems integrators and application software companies.

The success of this approach is reflected in the company's consistent record of growth and profitability. Sales of $933 million

in 1992 have placed Novell among the world's largest software companies. Indeed, with LANs worldwide, the company has a dominant position at the forefront of Network Computing.

Simply put, Novell is a major success story and powerhouse in the network operating systems market. Novell is way ahead of its competitors with the only real challenge coming from Microsoft.

Input expects that Novell will retain its market position and continue to lead the way forward in network computing.

RAET N.V.
Eendrachtlaan 10
3526 LB UTRECHT
The Netherlands
Tel: 33 1 30 82 96 11
Fax: 33 1 30 88 78 82

Managing Board of Directors: W. Huisman
(Chairman), A.E.R. Helmich, J.A.M. Rutges,
J.L.M. Van Rhijn
Status: Private
Number of Employees: 2,799
Revenue (FYE 31-12-91): DFL 717.5 million

The Company

RAET N.V. was founded in 1957 and is a 100% privately owned company.

INPUT estimates RAET to be the second largest software and services company in the Netherlands (after CAP VOLMAC).

In the Netherlands, RAET offers fully integrated and compatible information system products and services. Different services are offered to serve the specific needs of large companies, national and local government and semi-state organisations, health care, agricultural industry, trade, professional services and industry. Automation Center provides international support to large companies and a certain number of market segments such as direct mail, car dealers and trade houses.

Organisational Structure

RAET NV has centred its products and services around four core activities. Its operating companies and business units are grouped within the scope of these activities to focus on targeted market sectors and specific applications. The four activities are:

· **Business solutions** for health care, education, associations, municipalities, agricultural industries, notary-barristers and accountancy offices, trading companies and automotive industries as well as general financial applications and personnel and pay-roll systems. In 1992 this activity accounted for 56% of revenue.

· **Information processing and network facilities,** operating technologically advanced computer centres and networks on a national and international scale and thus offering the possibility to contract out computer processing, network services and the management and maintenance of applications to RAET. In 1992 this activity accounted for 10% of revenue.

· **Automation projects and consultancy** aimed at development, management and maintenance of information systems, information technology, software development, consultancy and training. In 1992 this activity accounted for 12% of revenue.

· **Office automation,** such as the delivery and installation of micro and mid-range computers for office use, technical maintenance and logistics management and the link to possible internal and external networks. In 1992 this activity accounted for 22% of revenue.

A substantial number of RAET's clients are Dutch-based, but more emphasis is now being put on international markets. Under the name of Automation Center, RAET has offices in Germany, Switzerland, Austria, Belgium and Luxemburg. Automation Center's services and products are primarily aimed at applications and facilities for information processing and networking. Turnover outside the Netherlands was 19% of the total in 1992 (20% in 1991). Other EC countries contributed the major share with 13% of the overall total, while 6% came from non-EC European countries.

RAET N.V.'s main subsidiaries and associated companies are listed in Exhibits A and B.

Exhibit A

SUBSIDIARIES

NAME	COUNTRY	% OWNED
ACI (International AG)	Switzerland	100
Computer Software Nederland BV	NL	100
RAET Advies B.V.	NL	100
RAET Ziekenhuis Informatiesystemen B.V.	NL	100
RAET Applicaties B.V.	NL	100
RAET Gezondheidszorg en Welzijn B.V.	NL	100
RAET Informatie Verwerking B.V.	NL	100
RAET Integratie Services B.V.	NL	100
RAET Lokale Automatiserings Diensten B.V.	NL	100
Silvac B.V.	NL	100
RAET Systems & Services B.V.	NL	100

Exhibit B

ASSOCIATED COMPANIES

NAME	COUNTRY	% OWNED
Management for Systems & Operations B.V.	NL	100
ICIM B.V.	NL	31.5
RIOS Groep B.V.	NL	30
Administra Computing Groep N.V.	Belgium	17
VVAA-RAET Praktijkautomatisering Gezondheidszorg v.o.f	NL	50

As of December 1991 RAET employed 2,686 staff, up 18% from year-end 1990. This increase is primarily due to acquisitions.

The average number of employees for 1992 was 2,799. Approximately 19% of staff were employed outside the Netherlands.

Recent Acquisitions

RAET N.V. made a number of acquisitions in 1991.

· In January 1991, the company acquired a 51.1% interest in Silvac B.V., an independent system base specialising in IBM AS/400s and related products and services. Also in January the activities of AAG Automatisering were acquired and transferred to RAET Gezonheidszorg en Welzijn B.V.

· In mid-1991 RAET acquired a participation in Computer Software Nederland, a software company which provides standard software for financial administrations.

· In June 1991 RAET acquired the activities of Topdata and these were transferred to the joint venture MS&O B.V. (Netherlands).

RAET also increased its shareholdings in two of its companies.

· In January 1991 the ownership interest in LARC Computercentrum B.V. was increased from 76% to 100%.

· Also in January, the 50% interest in RLAD B.V. was increased to 100%.

1992 Acquisitions:

· In early 1992, RAET increased its interest in Computer Software Nederland B.V. to 100%.

· Also in 1992 RAET increased its share in MS&O B.V. to 100%. MS&O has been incorporated into RAET's Information Processing and Network Facilities activity.

· In 1992 RAET increased its shareholding in Computer Software Nederland to 100%. The company has been incorporated into the Business Solutions activity under RAET Applications.

Key Products and Services

RAET offers its products and services through four core activity sectors.

Business Solutions

RAET's Business Solutions activities are grouped in specialised operating companies and business units, each one selling its specific knowledge and expertise to the sector of trade or industry it serves. Market positions vary from one operating company to the next, but on average they have a strong presence.

The operating companies in this sector are:

RAET Applications, which through its seven business units supplies horizontal application services.

RAET Decentralised Government, which operates within the Dutch local government market. For municipalities and Polder Boards, RAET offers comprehensive systems with standard applications for minicomputer systems.

RAET Health and Welfare and RAET Hospital Information Systems. Both of these companies address the changing face of the health market. RAET Health and Welfare has recently realigned its services and products to be in a better position to sell to its market.

RAET Agriculture addresses automation in the agriculture sector.

ACI International. The Automation Center realised a net turnover of DFL 123 million; approximately 50% of this turnover can be attributed to business solutions. Of special interest is the pay-roll package which is in increasing demand following the German re-unification.

Information Processing and Network Facilities

RAET Information Processing and Network Facilities answers a
growing demand for external management of computer centres and
for facilities to undertake different automation tasks and
communication activities.

In the facilities management market RAET has a reputation as an
established vendor in the Netherlands and a market position to
match. Automation Center has been active in facilities
management since 1959.

The companies operating in this sector are:

RAET Information Processing - which up until January 1992 was an
in-house service centre supporting other RAET companies by
providing network and computer facilities. The company is now
acting as an independent supplier of facilities management and
value-added network services.

ACI International - Apart from business solutions, Automation
Center offers services and facilities for information processing and
networks.

Automation Projects and Consultancy

This sector is targeted specifically at international companies and
organisations and also central public institutions. The sector
operates on the basis of account management. Clients are offered
software projects and services complemented by services and
products of other RAET companies.

Much attention is paid to the quality and application of new
developments. There are specialised units for banking and
insurance companies, for central government institutions with a
special emphasis on information technology and for users of DEC-
VAX and IBM AS/400.

The companies operating in this sector are:

RAET Integration Services - which provides software services to
targeted industry sectors.

RAET Consultancy - which offers supporting services for RAET
Integration Services, such as specialised courses for systems
development and project management.

Office Automation

Office Automation supplies the widest possible range of services
and products to automate the office. RAET offers a complete
package including logistics management and technical maintenance.
On an international level, RAET has joined other suppliers in the
International Computer Group, which is aimed at improving the
service level for companies that operate internationally.

The company operating in this sector is **RAET Systems and
Services.**

All of the companies within the core activity sectors offer training
facilities for their own products and markets.

**Financial
Information**   Exhibit C

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (DFL MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	260	367	477	601	718
Annual Growth Rate (%)	44	41	30	26	19
Profit before Taxes	10	27	31	15.3	19.6
Annual Growth Rate (%)	25	170	15	(-51)	28
Profit after Taxes	9	20	26	0.4	9.4
Annual Growth Rate (%)	-	122	30	(98)	225

Note: Numbers are rounded

Market Analysis   Exhibit D

1991 MARKET ANALYSIS BY RAET-DEFINED BUSINESS ACTIVITY

ACTIVITY	REVENUES (DFL MILLIONS)	PERCENT
Business Solutions	321	53
Information Processing & Network Facilities	120	20
Automation Projects and Consultancy	124	21
Office Automation	129	21
Other Activities	9	1
Internal sales	(102)	(16)
TOTAL	**601**	**100**

Note: Numbers are rounded

Exhibit E

1992 MARKET ANALYSIS BY INPUT SERVICE MODE
SOFTWARE AND SERVICES

INPUT SERVICE MODE	REVENUES* ($ MILLIONS)	PERCENT
Systems Software Products	20	5
Application Software Products	40	10
Professional Services	150	37
Systems Integration	20	5
Systems Operations	25	6
Network Services	20	5
Processing Services	115	28
Total Software and Services	390	95
Equipment Services	20	5
TOTAL EUROPEAN REVENUES	**410**	**100**

* INPUT estimate of software and service revenues.

Note: Numbers are rounded

Exhibit F

1992 MARKET ANALYSIS BY INDUSTRY SECTOR
SOFTWARE AND SERVICES

INDUSTRY SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Discrete Manufacturing	50	13
Process Manufacturing	35	9
Transportation	5	1
Utilities	20	5
Telecommunications	10	3
Retail Distribution	5	1
Wholesale Distribution	20	5
Banking and Finance	50	13
Insurance	15	4
Health care	50	13
Education	10	3
Local Government	50	13
National Government	15	4
Business Services	15	4
Other Industries	5	1
Cross-Industry Sectors:		
Human resources	5	1
Systems Software Products	20	5
TOTAL SOFTWARE AND SERVICES	**390**	**100**

Note: Numbers are rounded

* INPUT estimates.

Exhibit G

1992 MARKET ANALYSIS BY INDUSTRY SECTOR
SOFTWARE AND SERVICES

COUNTRY	REVENUES ($ MILLIONS)	PERCENT
Germany	45	11
Netherlands	334	81
Belgium/Lux'	7	2
Switzerland	13	3
Austria	10	2
TOTAL INFORMATION SERVICES	**410**	**100**

Note: Numbers are rounded

* INPUT estimates.

**Company
Strategies**

(a) **Company Direction**

The basis of RAET's strategy is to secure continuity in its
relationship with clients and to strengthen and expand strategic
market positions that were achieved in the past.

RAET has reacted to the pressures felt in the Dutch market by
implementing a plan for the company, which it has named FOCUS
'92. Concentration on core activities is one of the policies laid down
in FOCUS '92 and as a result, decentralisation in the company will
be speeded up.

Various staff functions at the head office have been relocated in
different operating companies. Further delegation of tasks and
authority to the operating companies has been fine-tuned.

The activities of the RAET Training Institute will be divided
amongst the operating companies. Accordingly, RAET hopes to
achieve a more targeted training service. Minority participations,
grouped together in RAET Participations, will be disposed of. With
a view to reducing costs the organisational structure will be
simplified where and whenever possible and all organisational units
will be assessed on the effectiveness of their performance.

The policy aimed at internationalisation will be continued. The
activities of Automation Center, the International Computer Group
and Tietotehdas fit extremely well with RAET's activities and offer
possibilities for joint projects in the international market.

(b) **Conclusions**

In 1991 growth of the Dutch IT market slowed down. Most obvious
was the reduced demand for hardware and, to a lesser extent, for
software and services. Diminished growth went hand-in-hand with a
further segmentation of the market and a stiffening of competition.
With these market developments in mind RAET launched its plan
FOCUS '92, aimed at a further concentration on the company's four
core activities and at a reduction of the company's overall level of
costs.

RAET's turnover increased to DFL 717 million. In the Netherlands
RAET realised a modest growth, whilst abroad a much higher
turnover was achieved based on Automation Center's healthy
performance.

Net profit fell drastically to DFL 0.4 million in 1991 but recovered
to DFL 9.4 million in 1992. RAET attributes this increase to the
benefits of implementing FOCUS '92.

RAET expects that the implementation of FOCUS '92 will lead to further improvement of the company's results in 1993 and to a reduction of extraordinary income and expenses and thus, to an improvement of net profit.

Strategic Assessment

RAET has recognised the need to align its products and services with those required by its customers. The structural changes in the needs of organisations, the effects of a reduced demand in hardware and further segmentation in the marketplace have led to the company's increased focus on developing its market specializations.

It is too early at this stage to say if the implementation of FOCUS '92, with its policies of market orientation, cost reduction and internationalisation will be as effective as the company expects long-term, but the 1992 results look positive.

Certainly, the company is moving in the right direction, monitoring its client requirements and putting emphasis on strengthening its position in strategic markets. Together they offer a wide and effective base for RAET's future development.

REUTERS HOLDINGS PLC
85 Fleet Street
London EC4P 4AJ
Tel: 44 1 250 1122
Fax: 44 1 324 5874

Chairman: Sir Christopher Hogg
Managing Director and
Chief Executive: Peter Job
Status: Public
Number of Employees: 10,159
Revenue (FYE 31-12-92): £1,568 million

The Company

Reuters is the world's leading electronic publisher. It supplies the global business community and news media with a wide range of facilities including real-time financial data and transaction services, access to numeric and textual historical databases, news and news pictures. Reuters owns Visnews, the international television news agency, and Reuters group companies design and install trading room systems.

Reuters obtains information from around 186 stock exchanges and over-the-counter markets around the world and from a network of some 1,200 journalists, photographers and camera-men. Reuters distributes information through approximately 200,000 screens. Its world-wide network also provides direct feeds to clients' computers.

Reuters has 10,159 employees in 120 bureaus around the world.

Organisational Structure

Reuters services fall into three categories:

· Information Products

· Transaction Products

· Media Products.

Reuters manages its business in three geographic areas:

· Reuters Europe, Middle East and Africa

· Reuters Asia

· Reuters America.

The principal shareholders are shown in Exhibit A.

Exhibit A

SHAREHOLDERS

SHAREHOLDERS	% OWNED
ABU DHABI INVESTMENT AUTHORITY	7.2
DAILY MAIL AND GENERAL TRUST PLC	4.3
PRUDENTIAL CORPORATION	4.2
SCHRODERS PLC	3.6
OTHERS	81.0

Note: Numbers are rounded

Reuters has 13 main subsidiaries which are shown in Exhibit B.

Exhibit B

SUBSIDIARIES

NAME OF SUBSIDIARY	COUNTRY	% OWNED
Reuters America Inc	U.S.	100
Reuters Services SARL	France	100
Reuters AG	Germany	100
Reuters Australia Pty Ltd	Australia	100
Reuters Hong Kong Ltd	Cook Islands	100
Reuters Italia S.p.A	Italy	100
Reuters Japan Kabushiki Kaisha	Japan	100
Reuters Limited	U.K.	99.9
Reuters South East Asia Ltd	Cook Islands	100
Reuters SA	Switzerland	100
Reuters Singapore Pte Ltd	Singapore	100
Instinet Corporation	U.S.	100
Reuters Television Ltd (formerly Visnews Ltd)	U.K.	100

Exhibit C

KEY EXECUTIVES

Christopher Hogg	Chairman
Peter Job	Managing Director and Chief Executive
Robert Rowley	Finance Director and Company Secretary
David Ure	Executive Director
André Villeneuve	Executive Director
Mark Wood	Executive Director and Editor-in-Chief

**Acquisition
History**

Reuters has made a number of acquisitions since it was floated as a public company in 1984.

1985:

- Acquired Rich Inc, of Chicago, designer and supplier of communication systems for financial trading rooms.

- Acquired a 7% interest in Instinet, which operates a computerised share trading system. In November acquired another 42%.

- Acquired control of Visnews Ltd., an international television news film agency, raising its stake in the company from 33% to 55%.

1986:

- Acquired the Finance Division of Hovel Business Systems Ltd., which developed software for the Reuters Position Keeping Service.

- Acquired L.H.W. Wyatt Brothers Ltd., a U.K.-based supplier of voice communication products for financial dealing rooms.

- Acquired two companies serving the U.S. Securities market. One is Network Utilities Inc, of Chicago. The second is Reveal Software Inc, of New York.

- Acquired Finsbury Data Services Ltd. of the U.K., operator of historical databases used by financial and related markets.

1987:

- Acquired Securities Clearing International Corp., a North American operator of INSTANT-LINK, a real-time global communications system.

- Acquired IP Sharp Ltd. of Toronto, a leading time-sharing network and database company, specialising in finance, economics, energy and aviation.

- Acquired the remaining 51% of Instinet.

1988:

- Acquired a further 33.75% interest in Visnews, bringing its total shareholding to 88.75%.

· Acquired a 48.8% interest in Australian Associated Press Pty Ltd. (AAP).

· Sold 37.75% of Visnews to the National Broadcasting Company of the U.S. The Reuters holding is reduced to 51%.

1990:

· Acquired Uplink Ltd. a specialised Satellite Service Operator (SSSO) licensed by the U.K. to provide from the U.K. one-way point to multi-point satellite services within Europe.

1992:

· Acquired a 35% stake in the French software house, Effix Systèmes SA, a supplier of software in the Reuters product line for dealing room information management.

· Acquired balance of Visnews shares; Reuters holding now 100%. The name is changed to Reuters Television.

· Reuters subsidiary Instinet acquires Bomar Securities of New York. Instinet will market Bomar's products as Instinet Analytics. Instinet joins Frankfurt Stock Exchange and plans to join Paris Bourse in 1993.

Key Products and Services

(i)   Technology

Reuters has always laid great stress on using the most efficient and technically advanced facilities available to build the infrastructure for all its services. The Company operates the most extensive international private leased communications network in the world. More than 130 countries access the network.

During 1992, Reuters spent £78.5 million on development, an increase of 17% on 1991. Reuters realises that to provide value-added services and thus retain its market share, investment in new development is crucial.

In 1992 development spending continued on network and product enhancements. The year was seen as the busiest ever for new and enhanced products, rolled out with improved timeliness.

Dealing 2000 (Phase 2) was implemented on 99 terminals with orders for a programme of 92 terminals at year end.

GLOBEX was installed in two U.S. exchanges. At year end 200 terminals were installed in four centres with a further 120 awaiting installation.

(ii) Products and Services

Reuters' services are focused in three main product areas:

1) Information products

Information about and for the world's money, capital, equity, commodity and energy markets is packaged for the use of executives outside as well as within the financial industry. Within this product area are applications products that add value to information by enabling clients to analyse it in customised formats. These include Microsoft Excel Real-time Spreadsheet, FXCalc, Reuters Terminal Graphics and others.

Products are:

- Money 2000 - covers foreign exchange, precious metals and short-term money market instruments.

- Debt 2000 - covers money market and treasury debt and sovereign debt.

- Securities 2000 - a real-time stock market quotation service with history of 28,000 stocks in 25 markets.

- Commodities 2000 - a real-time commodities quotation service.

- Energy 2000 - a package covering the physical and futures market for the oil industry.

- Treasury 2000 - Information service combining Money 2000 and Debt 2000.

- Futures 2000 - futures from a variety of markets.

- Markets 2000 - the comprehensive service covering all the above.

- News 2000 - real-time coverage of events likely to influence markets.

Business information products are based on a database of news from Reuters and 500 other sources, delivering data to the user's own PC.

Products are:

- Reuters on Demand

- Reuters Business Briefing

- Reuters Insurance Briefing

- Reuters East European Briefing

- Reuters European Community Report

- Reuters Textline - Business information database.

Other information-handling products include terminals and communications systems for trading rooms. These address customers' needs to handle large amounts of data from many sources in a cost effective manner to analyse information more rapidly and effectively and, in some cases, to gain access to information at any number of work stations.

Key products are:

- Reuters Terminal - Standard key station for information services using PC platforms and software including Microsoft Windows; can be linked to user LANs and used standalone.

- PRISM - full colour switching system supporting video

- Triarch 2000 - advanced digital information delivery network

- Datafeeds - real-time supply of data for use in users' own systems

- Reuterlink - pricing information nominee via PC

- Pocketwatch - local information in metropolitan areas in 14 countries on hand-held device.

2)   Transaction Products

Transaction products aim to help traders, dealers and brokers active in foreign exchange, stocks, bonds, futures and options to trade with counterparts through Reuters communications and trading networks. They are designed to be fast, reliable and confidential.

The Reuters products and services in this category are categorised as:

- Foreign Exchange and Financial Instruments:
  - Dealing 2000 Phase 1
  - Globex 2000 Phase 2
  - Monitor Dealing

- Equities:
  - Instinet.

3) Media Products

Reuters supplies newspapers, magazines and broadcasters with news, news graphics, news pictures and television newsfilm. Its network of staff, reporters, editors and photographers is supported by part-time reporters, photographers and camera-men working in almost every country in the world.

Financial Information   Exhibit D

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (£ MILLIONS*)

YEAR	1988	1989	1990	1991	1992
Revenue	1,003	1,187	1,369	1,467	1,568
Annual Growth Rate (%)	16	18	15	7	7
Profit before Taxes	215	283	320	340	383
Profit after Taxes	134	181	208	230	261
Net Profit (%)	13	15	15	16	17
EPS	32.1p	43.6p	49.5p	54.7p	61.8p

*   *exchange rate: £1 = US$1.51*

Market Analysis Exhibit E

1992 MARKET ANALYSIS BY GEOGRAPHIC AREA AND PRODUCT ANALYSIS*

GEOGRAPHIC AREA	REVENUE ($ MILLIONS)	PERCENT
Europe, Middle East, Africa	952.8	61
Asia/Pacific	297.0	19
The Americas	259.4	16
Reuters Television (Formerly Visnews)	58.4	4
TOTAL	**1,567.6**	**100**

*As reported by Reuters

Because of rounding, the figures shown may yield different results.

Exhibit F

1992 MARKET ANALYSIS BY PRODUCT GROUP

PRODUCTS GROUP	REVENUE* ($ MILLIONS)	PERCENT
Information Products Transaction Products Media Products	1,184.5 279.4 103.7	75 18 7
TOTAL EXTERNAL SALES	**1,567.6**	**100**

*Source: Reuters

Because of rounding, the figures shown may yield different results.

Exhibit G

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE
EUROPE

DELIVERY MODE	REVENUE* ($ MILLIONS)	PERCENT
Systems Software Products	25	2
Application Software Products	40	3
Turnkey Systems	135	10
Professional Services	110	8
Network Services	1,035	75
Total Software and Services	1,345	97
Equipment/Other Revenues	35	3
TOTAL EUROPEAN REVENUES	**1,380**	**100**

Source: INPUT estimates

Note: Numbers are rounded

Exhibit H

1992 MARKET ANALYSIS BY INDUSTRY SECTOR
EUROPE

INDUSTRY SECTORS	REVENUE* ($ MILLIONS)	PERCENT
Banking and Finance	1,125	84
Insurance	130	10
Other Industries	65	5
Systems Software Products	25	2
TOTAL SOFTWARE AND SERVICES	**1,345**	**100**

*INPUT estimates (excluding media products)

Note: Numbers are rounded

Exhibit I

1992 MARKET ANALYSIS BY EUROPEAN COUNTRY

COUNTRY	REVENUE* ($ MILLIONS)	PERCENT
France	270	20
Germany	280	21
U.K.	375	28
Italy	120	9
Netherlands	40	3
Belgium/Lux'	27	2
Spain	47	3
Switzerland	67	5
Austria	13	1
Sweden	40	3
Denmark	13	1
Norway	13	1
Finland	9	1
Ireland	13	1
Portugal	7	1
Greece	4	<1
TOTAL INFORMATION SERVICES	**1,345**	**100**

*INPUT Estimates

Note: Numbers are rounded

Because of rounding, the figures shown may yield different results.

Company Strategies

(a) Company Direction

Reuters' strategy remains centred on introducing added value in information services and on developing new transaction facilities for financial markets. The company is concentrating on quality, measured against exacting performance standards.

Reuters main product and technology objectives are:

· To provide all financial markets with the broadest, most accurate and integrated package of market information available, to make this package as easy to use as possible and to deliver it as rapidly as possible.

· To provide a technological platform which delivers information speedily and allows clients to use and analyse it.

· To enhance the ability of dealers to do business with other subscribers over Reuters networks.

**Company
Strategies**

(a) Company Direction

Reuters' strategy remains centred on introducing added value in information services and on developing new transaction facilities for financial markets. The company is concentrating on quality, measured against exacting performance standards.

Reuters main product and technology objectives are:

· To provide all financial markets with the broadest, most accurate and integrated package of market information available, to make this package as easy to use as possible and to deliver it as rapidly as possible.

· To provide a technological platform which delivers information speedily and allows clients to use and analyse it.

· To enhance the ability of dealers to do business with other subscribers over Reuters networks.

· To help dealers process and analyse the flood of information from Reuters and other sources.

To fortify its long-term market position, the company is concentrating on making its price structure more effective against competition, improving its product line and data quality and providing better customer services. Revenue growth in 1991 and 1992 was much lower than before as market conditions hardened and peripheral businesses were shed. But net profit rate held up or improved.

Strengths

Reuters' strength lies in its sheer size and geographic presence. Its information network spans some 130 countries and it has employees in 25 countries.

The flotation of Reuters as a public company in 1984 raised about £52 million of new capital, after payment of costs, which became available to finance future growth. The growth of profits has enabled the company to widen its range of business products and earn the position as an international market leader.

The company's commitment to development has resulted in a constantly developing communications network and a reputation for continuous technological innovation.

Reuters' knowledge of and expertise in providing services to the financial markets is extensive to say the least. Throughout its history, the company has made a number of strategic acquisitions and formed many alliances with other organisations, all designed to expand its service offerings both technically and geographically.

Reuters' main market lies in the financial arena and the company is somewhat dependent on its client base here for the majority of its revenue. The reliance on these markets is currently effecting revenue growth and will continue to do so until such time as there is an improvement in volumes of trade. This looks unlikely to happen until the economic climate improves.

(b) Conclusions

Reuters is determined to increase its product and service efficiency despite difficult market conditions.

The recession has stifled activity in many financial markets upon which the company depends for growth. A fall in orders in 1991 led the company to rationalise its business and reduce its workforce.

This process has continued in 1992 whilst Reuters has taken a number of active measures to increase the level of new orders. These include packaging of new facilities into existing services free of charge where previously they would have been sold for an extra fee. The company is also manufacturing price stability and in a few cases decreasing prices, to make products more competitive.

Reuters' two new products, the foreign exchange matching system, Dealing 2000 Phase 2, and the GLOBEX financial futures matching system, are proving themselves technically, but it is too early to gauge the extent and timing of their contribution to the company's revenue.

The main challenge facing Reuters, in the present economic climate, is retaining revenue growth in a market that continues to see turbulent business activity.

COMPANY PROFILE

SAP AG
Max-Planck Straée 8
D-6909 Walldorf
Germany
Tel: 49 62 27 34 0
Fax: 49 62 27 34 12 82

Chairman: Dietmar Hopp
Status: Private
Number of Employees: 3,362
Revenue (FYE 31-12-92): DM 831.2 million

The Company

SAP was founded in 1972 by its four directors and major shareholders (80% ownership):

Dietmar Hopp
Dr. Hasso Plattner
Hans Werner Hector
Klaus Tschira

The company established itself during the 1980s as the most successful European application software products vendor with its dominance of the German market for accounting applications based on mainframe architectures. The company's R/2 product covers:

- Financial accounting
- Fixed assets accounting
- Production management
- Cost accounting
- Plant maintenance
- Human resource management

The R/3 product is conceived in terms of the same functionality as R/2 but based on open systems and client/server architecture.

SAP faces those challenges characteristic of the European application software products sector.

Specifically it must:

- Expand its international coverage
- Exploit any opportunities emerging in Eastern Europe
- Introduce new product ranges offering greater portability and designed for distributed computing
- Extend its market coverage to small and medium-sized organisations
- Retain its traditional customer base in the face of rapidly changing technology.

**Financial
Information**   Exhibit A

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12)

YEAR	1988	1989	1990	1991	1992
Revenues (DM Millions)	245	367	499	707	831
Annual Growth Rate %	61	50	36	42	18
Profit after Taxes (DM Millions)	44.5	68.2	82.1	123.3	127.2
Profit on Revenue%	18	18	17	17	15
Profit Growth Rate %	41	53	20	50	3

Source: SAP AG

Market Analysis   Exhibit B

**ESTIMATED REVENUES BY INDUSTRY SECTOR
SOFTWARE AND SERVICES, EUROPE, SAP, 1992**

	REVENUES ($ MILLIONS)	SHARE (%)
Industry Sectors:		
Discrete Manufacturing	130	30
Process Manufacturing	65	15
Transportation	15	3
Utilities	15	3
Telecommunications	15	3
Retail Distribution	15	3
Wholesale Distribution	15	3
Banking and Finance	65	15
Insurance	15	3
Healthcare	15	3
Local Government	15	3
National Government	30	7
Business Services	15	3
Total Software and Services	440	100

Source: INPUT estimates

Exhibit C

ESTIMATED REVENUES BY DELIVERY MODE
SOFTWARE AND SERVICES, EUROPE, SAP, 1992

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Application Software Products	260	58
Turnkey Systems	5	1
Professional Services	175	39
Total Software and Services	440	98
Equipment/Other Revenues	10	2
Total European Revenues	450	100

Source: INPUT estimates

Geographic Coverage

Exhibit D

ESTIMATED REVENUES BY COUNTRY
INFORMATION SERVICES, EUROPE, SAP, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	15	3
Germany	310	70
U.K.	10	2
Italy	10	2
Netherlands	15	3
Belgium/Lux'	14	3
Spain	9	2
Switzerland	19	4
Austria	17	4
Sweden	4	1
Denmark	5	1
Norway	1	<1
Europe Balance	8	2
Total Information Services	440	100

Source: INPUT estimates

In 1992, domestic revenue grew by 25% but international growth was only 8%. So the share of international business was less (41%) than in 1991 (44.7%) .

Exhibit E

NUMBER OF EMPLOYEES, 1992

REGION	NUMBER OF EMPLOYEES
Germany	2,340
Other European Countries	509
N America	370
Asia Pacific	101
Africa	42
TOTAL	3,362
FUNCTION	NUMBER OF EMPLOYEES
Research & Development	1,038
Support	1,541
Sales/marketing	284
Management/Admin	499
TOTAL	3,362

Source: SAP AG

                   October 1993

Subsidiaries   Exhibit F

SUBSIDIARIES

COMPANY	COUNTRY	INTEREST	EMPLOYEES
SAP-M GmbH Formerly SAP Consulting	Germany	100%	83
TOS GmbH	Germany	60%	82
STEEB-CAS Informationstechnik GmbH	Germany	42%	187
Steeb Anwendungssysteme Gmbh	Germany	100%	0
CAS Computer Anwendungs-systeme GmbH	Germany	100%	0
CAS Computer Anwendungs-systeme GmbH Nord	Germany	52%	24
SRS Software und Systemhaus Dresden GmbH	Germany	45%	280
SAP (Schweiz) AG formerly SAP (International)	Switzerland	100%	
SAP (UK) Ltd	U.K.	100%	49
SAP FRANCE SA	France	100%	73
SAP Danmark A/S	Denmark	100%	26
SAP Svenska AB	Sweden	100%	20
SAP Nederland BV	Netherlands	100%	48
SAP SA	Spain	100%	37
SAP Italia SpA	Italy	100%	32
SAP Ges.m.b.H	Austria	100%	46
STEEB-CAS26 Informtionstechnik GmbH	Austria	100%	11
STEEB-CAS Informationstechnik AG	Switzerland	100%	4
STEEB-CAS INFORMATIONTECHNIK FRANCE SARL	France	100%	0

SUBSIDIARIES (continued)

SAP America Inc	USA	100%	235
SAP Canada Inc	Canada	100%	38
WS Investment Holdings	USA	99%	0
SAP Asia Pte Ltd	Singapore	100%	43
SAP Australia Pte Ltd	Australia	100%	30
SAP Japan Co Ltd	Japan	100%	0
SAP Data Processing (Malaysia) Sdn Bhd	Malaysia	100%	3
SYSTEMS APPLICATIONS PRODUCTS (SOUTHERN AFRICA) (PTY) LTD	S. Africa	100%	25

Source: SAP AG

SAP has set up national subsidiaries and invested heavily in the training of qualified personnel in countries with SAP branch offices. In the international marketplace as in the domestic one, SAP prefers a consultancy-style approach to sales emphasising knowledge rather than sales technique. Using parent company/subsidiary links between customers already using SAP software, reference customers were quickly gained, which then acted as models for other businesses operating in the same country.

In the meantime, all the country-specific requirements - some of which had previously been handled by the national subsidiaries as supplements to the system - have been incorporated into the standard product. Firms with affiliates in different countries can now use identical versions of SAP standard software at a central computer centre or on individual computer systems. There are country-specific extensions for the following countries:

Australia	The Netherlands
Austria	Norway
Belgium	Spain
Canada	Sweden
Denmark	Switzerland
France	United Kingdom
Italy	United States

Exhibit G

SAP INSTALLED BASE (EXC. STEEB-CAS)
APRIL 1, 1993

COUNTRY	NUMBER OF CUSTOMERS
Germany	1,211
Austria	122
Switzerland	111
Netherlands	64
France	68
United Kingdom	30
Spain	33
Italy	32
Belgium	32
Denmark	19
Norway	7
Sweden	13
Luxembourg	6
Hungary	7
United States	75
Australia	18
Canada	17
South Africa	13
Singapore	10
Malaysia	6
15 countries with less than 6 clients	30
TOTAL	**1,924**

Source: SAP AG

SAP software is available in:

German	Dutch
English	Danish
French	Swedish
Spanish	Russian
Italian	Japanese

By using SAP's data dictionary, users can switch between languages in the same session.

Expansion into Eastern Europe

SAP moved into the market in Eastern Germany promptly. At the beginning of 1991, SAP's branch office in Berlin had 67 employees, while over 300 personnel were employed at SRS in Dresden.

SRS, based in Dresden, is a joint venture between SAP, Robotron and Siemens. One of its main functions is to market and implement the SAP System on Siemens computers. SAP has a 45% stake in SRS.

In 1990, SAP gained more than 60 customers in eastern Germany.

Another important task being handled by SRS is the preparation of SAP software for use in the former USSR and, medium-term, in the other former eastern bloc countries. With Robotron, SAP has gained a useful partner which is contributing the necessary infrastructure and qualified personnel to the joint venture.

The former Eastern bloc countries will contribute to an expansion of the international market in the medium term - and, from the point of view of their economic power, in the long term too. SAP's Austrian subsidiary is already serving companies in Hungary. With the assistance of the Soviet software house ZPS, Zentr-Programmsystem, based in Tver, SAP's products are now being adapted for installation in the former Soviet Union.

ZPS was introduced as SAP's partner at CeBIT'91, the German information technology fair, where parts of the Russian language user interface for the R/2 System were demonstrated.

Key Products and Services

The R/3 Product

SAP recognises the lack of growth in the mainframe sector and the need for products incorporating Window-based user interfaces, distributed processing and networked systems with standardised data communication. The company has spent extensively on R&D - 28% of sales revenue in 1992 - and developed its successor to the R/2 product, called R/3.

R/3 is an advanced product utilising:

- Client/server architecture
- Object-oriented development
- Graphical user interfaces.

It will be available on UNIX-based equipment from IBM, Siemens, Digital, Hewlett-Packard and Bull.

As well as UNIX-based equipment, R/3 will be made available on IBM AS/400 and Siemens BS2000 equipment.

Exhibit H

SAP PRODUCT SCHEDULE

	1991	1992	1993	1994	1995
Mainframe	R/2	R/2	R/2	R/2	R/2
				R/3	R/3
AS/400	SC400	SC400	SC400		
		R/3*	R/3	R/3	R/3
Siemens	R/2	R/2	R/2		
		R/3*	R/3	R/3	R/3
UNIX		R/3	R/3	R/3	R/3

*Note: * introduction planned for mid-year*

SAP CONSULTING serves medium-sized companies which run SAP standard software on high-performance, inexpensive Siemens or IBM small systems computers, based on the BS2000 or DOS/VSE operating systems. The whole range of R/2 System applications, including all the accounting, logistics and human resources management modules, is available to these customers without any restrictions on functionality.

The aim is for this software to be used without modification. SAP CONSULTING offers a control system for computer centers which it has developed itself and which allows day-to-day operations without any detailed knowledge of operating systems. Active consulting support is provided and the selected modules tailored to customers' needs on site.

TOS, Gesellschaft für Technologie, Organisation und Softwareentwicklung mbH located in Freiberg deals mostly with customers wanting to supplement their SAP software with customised programs which need to be integrated as far as possible into the standard products used.

TOS employs 62 people and has a branch office in Düsseldorf.

**Company
Strategies**

SAP has established plans to target separately the following two market segments:

- Large firms typically with turnovers greater than DM150 million and using mainframes.

- Medium-sized firms typically with turnovers between DM30 million and DM150 million and utilising AS/400, Siemens BS2000 or UNIX-based systems

Subsequently SAP will address the small company segment where UNIX and OS/2 are the appropriate software environments.

For the large company market, SAP will continue to supply its R/2 product which was enhanced in 1992. The new product was rolled out on time in the middle of 1992, and the company is predicting 1000 contracts in 1993. Many of these will come from the subsidiaries of R/2 users.

Initial equipment vendor partners for the new product include SNI (who will sell it directly to its customer base), Bull, Digital, HP and IBM.

SAP's strategy in the medium-sized company market has been:

- Acquisition of a client base
- Acquisition of AS/400-based application software products
- Development of the new mid-range product R/3.

To accelerate penetration of the medium-sized company market, SAP took over the Steeb group in Abstatt and CAS GmbH in Weinstadt in 1990. These firms are both successful suppliers of standard application software running on AS/400 equipment to medium-sized companies. Steeb's speciality is accounting, while CAS has made its name with logistics solutions. The two systems have now been combined and are being actively marketed. Between them, Steeb and CAS have about 500 customers. Steeb and CAS have been merged to form the SAP medium-sized customer organisation, SAP-M incorporating SAP CONSULTING.

In order to assist the introduction of R/3, the company has launched the "Logo-Partner" programme in cooperation with independent consultants. The programme may be replicated internationally.

Like users of SAP's R/2 software, Steeb/CAS customers will be offered transfer systems permitting migration to the R/3 System.

Conclusions

SAP is still being highly successful in its home market of Germany. But its growth outside Germany has slowed despite heavy marketing activity elsewhere in Europe and the U.S.

The future success of the company is heavily dependent on the performance of R/3, its new open systems product line. Proving that it can deliver a reliable and full function product in volume, then upgrading it as new versions emerge will establish credibility worldwide.

The second key to future success is the way the company manages its partners. Partners are essential to selling, implementing and supporting new systems on a wide variety of platforms in many different countries. SNI's newly announced application packs based on SAP are an indication of the resources strong partners can contribute. One of the biggest barriers to international growth is the shortage of experienced staff outside Germany. This applies both to the user community and to the third-party vendors.

SAP probably has the best chance of any European vendor to establish its application products as a worldwide de-facto standard.

COMPANY PROFILE

SEMA GROUP SA
16 rue Barbès
92126 Montrouge Cedex
France
Tel: 33 1 46 57 13 00
Fax: 33 1 46 56 96 53

Chairman: A. Barrera de Irimo
Managing Director: P.S.E. Bonelli
Status: Public
Number of Employees: over 7,000
Revenue (FYE 31-12-92): £416.7 million

SEMA GROUP plc
Regal House
14 James Street
London WC2E 8BT
United Kingdom
Tel: 44 71 379 4711
Fax: 44 71 240 6778

The Company

Sema Group resulted from a merger in 1988 of the French services company Sema Metra and the U.K.-based Cap Group Plc. Both companies had been in operation for 25 years.

The company has a strong heritage in professional services, carrying out large bespoke systems development projects across a range of industries. The company has strengths in project management and systems development methodologies.

Traditionally the company has avoided application software products but, in recent years, has been attracted to acquire application software product vendors by both the market growth in this area and the demand for a strong product base to fuel systems integration activity.

The company has a strong position in the defence sector through BAeSEMA Sema, together with retail banking and the manufacturing sector. BAeSEMA is a joint venture with British Aerospace, formed in 1991, incorporating Sema's YARD subsidiary. BAeSEMA contributed to growth and profits in 1992.

Overall Sema Group can be expected to continue to place considerable emphasis on:

· Strengthening its position in software development methodologies both for marketing to clients and in support of the company's own systems integration activity.

· Formation of well-targeted alliances.

Organisational Structure

Sema Group is a public company listed on the London International Stock Exchange and Paris Bourse.

As of December 1992 the major shareholders were:

Exhibit A

SHAREHOLDERS

NAME	PERCENT OWNED
*Financière Sema SA	39.35
Cap Gemini Sogeti SA	27.98
Schneider SA	9.74
CINVen Limited	6.73
Crèdit Agricole and related companies	4.48
Others	11.72

* Jointly owned by Compagnie Financière de Paribas SA and France Telecom.

Exhibit B

SUBSIDIARIES

NAME	COUNTRY	%OWNED
Sema Group SA	France	99.06
Sema Group Asia Pacific Pte Limited	Singapore	100
SGAP (Malaysia) Sendirian Berhad	Malaysia	100
Sema Group UK Limited	U.K.	100

Exhibit C

INDIRECT SUBSIDIARIES

NAME	COUNTRY	%OWNED
(Owned by Sema Group UK)		
BAeSEMA Ltd	U.K.	50
Sema Group Facilities		
Management plc	U.K.	100
Sema Group Systems Ltd	U.K.	100
Sema Group Consulting Ltd	U.K.	100
(Owned by BAeSEMA Ltd)		
BAeSEMA Combat Systems*	U.K.	100
(Owned by Sema Group SA)		
Sema Group Belgium SA	Belgium	100
Sema Group GmbH	Germany	90
Sema Group Informatica BV	Netherlands	100
Sema Group SAE	Spain	93.33
Sema Group Suisse SA	Switzerland	80.5
Sema Group Systems AG	Germany	96.4
Somibel SA	Belgium	100
Tibet SA	France	49

* Formerly Dowty Sema Ltd

Exhibit D

ASSOCIATED SUBSIDIARIES

NAME	COUNTRY	%OWNED
Aerosystems		
International Ltd	U.K.	50
Continuity and Planning		
Recovery Services Ltd	U.K.	50
** Axone	France	25
Competence Centre		
Informatik GmbH	Germany	32.5
SM 2 Baleares SA	Spain	49

** On 5 January 1993 this holding was sold to IBM.

Exhibit E

1992 EMPLOYEE ANALYSIS

COUNTRY	NUMBER OF EMPLOYEES
France	>2,000
United Kingdom	3,200
Germany	400
Spain	700
Benelux	>400
Switzerland	50
Singapore	50
TOTAL	>7,000

Source: Sema

Recent Acquisitions

In January 1990, Sema Group acquired control of ADV/Orga, Germany for $11 million. ADV/Orga had recently produced some bad financial results, losing $5 million on a turnover of $47 million. The former majority shareholder, Commerzbank, retained a minority interest. ADV/Orga has now been renamed Sema Group Systems AG.

In February 1990, Sema Group paid $8.5 million to acquire a 49% stake in Tibet SA, a company set up by the French stock exchange to develop front- and back-office systems.

In September 1990, Panther Systems Limited, U.K. was acquired and became a wholly owned subsidiary.

In December 1990, Sema Group acquired 71% of Emnid-Institut GmbH and Co KG in Germany.

In 1991 Sema Group acquired the Swiss company Qualitique, a supplier of financial software.

In January 1992 Sofres, the market research company, was sold off to allow more concentration on core business activity. Sofres turnover had been £43.4 million.

In 1992 Sema increased its control over BAeSEMA Ltd, and took control of Sema Group Systems AG.

In January 1993 the holding in Axone SA was sold to joint-owner
IBM, "in response to IBM's wishes."

**Recent
Major Projects**

- Selected to design and develop operational management systems
  for the Olympic Games in Barcelona. This was followed by the
  award of a further contract for the facilities management of all
  the computer installations for the Games.

- Chosen by the French Navy to develop the training simulators for
  their new generation nuclear submarine "Le Triomphant".

- Following on from the contract with Electricité de France to
  build the control room systems for their N4 plants, Sema Group
  was awarded a feasibility study and development work on the
  command and control systems for the first two N4 sites at Chooz.

- With the introduction of the new European accounting rules for
  banks, Sema Group's specially developed software solution is
  supporting a number of companies including BFCE, Paribas, La
  Hènin and Sovac.

- Sema Group's core software is at the centre of a new information
  system developed for the IT group of the Paris area saving banks
  (GIRETRICE).

- Sema Group is providing management assistance for the planned
  "Bibliothèque de France", with an information systems strategy
  and consultant support throughout the systems implementation
  phase.

- Work with the Civil Aviation Authority has continued with the
  National Air Traffic Flow Management System and the
  installation of a major information management system.

- The I-Linie package was supplied both to BMW and the BMW-
  Rolls Royce aero engine manufacturing company.

- With the award of the North West Thames Regional Health
  Authority facilities management contract Sema Group's
  responsibilities for Regional and District computing rose to cover
  226 hospitals and some 6,500,000 patients.

**Financial
Information**

Exhibit F provides a financial summary for Sema Group.

Exhibit F

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (£ MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	266	293	375	412	417
Annual Growth Rate (%)	238	10	28	10	1
Profit before Taxes	12.9	17.5	15.3	14.0	19.5
Annual Growth Rate (%)	122	36	-12	-8	39
Profit after Taxes	5.0	10.9	10.4	10.6	13.8
Annual Growth Rate (%)	39	118	-5	2	30
EPS	8.4p	11.6p	10.5p	11p	13.2p

Note: Numbers are rounded

In 1992 continuing businesses recorded an organic 8.3% growth, and profits overall increased in spite of continuing, but declining, losses in Germany. The increase in business from defence, energy and transport is now compensating for declines in banking and industry sectors.

**Market
Analysis**

Exhibit G provides a breakdown of Sema Group's revenues by country.

Exhibit G

1992 MARKET ANALYSIS BY GEOGRAPHIC AREA

COUNTRY	REVENUE ($MILLIONS)	PERCENT
France	240	37
Germany	50	8
U.K.	270	42
Belgium/Lux'	33	5
Spain	48	7
Europe Balance	10	2
TOTAL INFORMATION SERVICES	**650**	**100**

Note: Numbers are rounded

                    June 1992

Sema Group's principal strength continues to reside in France and the United Kingdom.

Exhibit H shows the breakdown of Sema Group's revenues by industry sector.

Exhibit H

1992 MARKET ANALYSIS BY INDUSTRY SECTOR (SEMA GROUP DEFINITIONS)

INDUSTRY SECTOR	REVENUE ($ MILLIONS)	PERCENT
Transport	36	8.6
Commerce & Services	27	6.4
Energy	55	13.3
Public Sector	60	14.4
Telecommunications	24	5.8
Defence	97	23.3
Industry	53	12.6
Finance	65	15.6
TOTAL	**417**	**100**

Note: Numbers are rounded

The company's largest and most international sectors are finance, industry and defence. Sema Group also has specialist businesses in the public sector communications, transport and leisure, energy and the service industries.

Exhibits I and J indicate the breakdown of Sema Group's total revenues by service type and delivery mode.

Exhibit I

1992 MARKET ANALYSIS BY SECTOR (U MILLIONS)

ACTIVITY	REVENUE	PERCENT
Products	40	9.5
Facilities Management	60	14.5
*Systems Integration	317	76.0
TOTAL	**417**	**100**

Source: Sema Group

Note: Numbers are rounded

*Systems integration includes consultancy, which represents 8% of total revenue.

Exhibit J

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE
EUROPEAN SOFTWARE & SERVICES

INPUT SERVICE MODE	REVENUES* ($ MILLIONS)	PERCENT
Systems Software Products	25	4
Application Software Products	20	3
Turnkey Systems	35	5
Professional Services	265	41
Systems Integration	140	22
Systems Operations	145	22
Total Software and Services	630	97
Equipment/Other Revenues	20	3
TOTAL EUROPEAN REVENUES	**650**	**100**

* INPUT Estimates

Sema Group's emphasis remains on professional services. However the company is keen to extend its market share in systems integration and systems operations.

In the U.K., the systems operations activities are carried out in the main by the facilities management division. Major contracts include Varity Corporation, Greater Glasgow Health Board and British Steel Service Centres.

Hardware platforms managed include:

· IBM 3090
· IBM 4361
· DEC
· ICL

Strategic Analysis

(a) Company Direction

Sema Group is one of the leading European professional services vendors formed from the merger of Sema Metra and the CAP Group.

The company's current strategy is to expand by improving its geographic coverage, strengthening its industry-specific capability and adding to its portfolio of software products.

(i) Partnerships

Sema's strategic objective is to increase revenues from Systems Integration. Unlike many of the leading systems integrators who perceive partnerships, rather than ownership, as the more flexible means of access to software products, Sema Group has had a deliberate policy to increase the proportion of its revenues generated by software products.

To implement this policy, SEMA Group decided to specialise in:

· industrial applications and computer-integrated manufacturing,
· retail banking
· computer-aided software engineering (CASE).

In 1990, the company acquired ADV/Orga - a developer of application software products for the manufacturing sector. ADV/Orga, now called Sema Systems AG, has 1,000 installations spread over 300 clients within Germany. The company sustained significant losses in 1991 and Sema is now looking for a partner.

Sema Group also acquired a controlling interest in Tibet SA, a company providing services to the members of the Paris stock exchange. Tibet is primarily a developer of back-office systems whose products Sema Group will be seeking to market extensively in the rest of Western Europe.

Sema Group's major partnerships include:

· Its support of IBM in the manufacturing sector in France.

· A 50/50 joint venture between British Aerospace (military aircraft) Ltd and Sema Group's Scientific and YARD divisions to form BAeSEMA to exploit the civil and defence marketplace.

   This agreement was established in August 1991 and replaces BAe's former agreement with SD-Scicon.

(ii) Consultancy

The mission of the consultancy arm within Sema Group is to bridge the gap between the needs and opportunities of businesses and the benefits available from technology. The company has its own methodologies, "MasterStrategy" and "MasterPlanning", which are used to develop a strategic approach which expands into a detailed systems plan providing an overall information architecture.

However despite the overall emphasis of Sema Group's consultants on the development of IS strategies, the company also has some wider consultant expertise, for example:

· Its involvement with the World Bank in developing national restructuring plans.

· The development of product strategies in areas such as electronics and banking through its Consultronique subsidiary.

· The engineering and scientific skills within BAeSEMA (formerly YARD). BAeSEMA is established in the defence, power generation, and oil and gas sectors and is developing its activities in the transportation sector.

· Assistance with staff communication strategies and the introduction of new technology through its consultant division.

However Sema Group appears to lack a coherent consultant group appropriate for assisting senior executives across a wide range of industries with business re-engineering as a precursor to the re-orientation of IS.

(iii) Geographic Coverage

As was indicated in Exhibit J, Sema Group only has significant penetration of France and the United Kingdom, though the company has been taking action to expand its presence in both Spain and Germany.

France

In France Sema Group has over 2,000 employees and specialises in management consultant, business software, scientific and technical systems. Facilities management services in France are provided by Axone, a joint venture with IBM France and Paribas.

As well as a strong presence in and around Paris, Sema Group has a number of offices in the South and West of the country. Tibet, the specialist in stock exchange software, is based in the heart of Paris.

In January 1992 Sema sold Sofres SA, its French market research company.

United Kingdom

The 3,200 staff employed in the United Kingdom serve all sectors of government and commerce, and the Group is particularly strong in systems integration, consultant and facilities management. The Birmingham, U.K. data centre is the international focus for facilities management operations across the U.S. and Europe.

Sema's presence in the defence sector is concentrated in the newly formed joint venture BAeSEMA.

The CardPac international product centre is based at Watford.

Germany

Sema Group is now endeavouring to establish itself in Germany through Sema Group Systems AG (formerly ADV/Orga AG) and Sema Group GmbH. The company has a presence in the industrial sector - with its *I-Linie* range of products - as well as in the financial and defence markets. The company has around 400 employees in Germany.

Spain

One of the leading information technology services companies in Spain, Sema Group SAE employs 700 staff at sites across the country. Specialising in consultant and management systems,

particularly for the financial sector, Sema Group is also
strengthening its position as a supplier of technical software in the
defence and industrial markets.

Belgium

The Brussels office has been established for over 30 years. Sema
Group Belgium is strong in management consultancy, notably in the
areas of transport and project management, and in developing
business systems. Brussels is the international centre for EASY
accounting software.

The Netherlands

In the Netherlands, Sema Group serves the commerce and
industrial markets as well as the finance sector.

Switzerland

Established in 1989, Sema Group in Switzerland serves the French-
speaking region around Geneva and the German-speaking area
around Basle, where a satellite office has recently been opened.

In 1991 Sema increased its presence in Switzerland with the
acquisition of Qualitique, a software supplier to the financial sector.

(b) Key Technologies and Skills

(i) Technologies

Sema Group is essentially a technology-based company, and priority
is given to the methods and tools which support the management of
large projects, and to the encapsulation of the company's experience
in certain sectors into reusable software.

Sema Group spent £ 14 million on R&D in 1991, an increase of 11%
on 1990 expenditures. Its spend was lower in 1992 at £ 13.2 million.

After a ten-year development programme, Sema Group launched
its Concerto software engineering workbench in 1990. Concerto
supports real-time design methodologies and is principally used in
the defence sector. For example, Concerto was evaluated for use in
the Hermes European space shuttle project, and supports the design
methodologies used by Sema to develop the command system for
the Royal Navy's Type 23 frigate.

1991 was a year of important developments for Principia, Sema's
software engineering workbench for business applications, with the

techniques to support design, documentation and co-operative application generation for the main environments in the market place.

Sema Group's research into new methods and tools for software development is centred on the requirements for large administrative systems development. The company is in the process of a thorough review of its approach to large projects in the light of three emerging standards. The first is its *MasterStrategy* and *MasterPlan* methodology for designing information systems. The second is the development of Merise/2, which incorporates data-flow diagrams further up-stream in the design process and the ability to handle co-operative processing applications down-stream. Finally, Sema Group is leading the second phase of the Euro method project, which aims at creating for the Single European Market a common reference model for business system design methodologies.

(ii) Key Application Products

Sema Group offers a range of kernel products for applications including:

CardPac	credit card processing
I-Line	fully integrated general ledger, MRP, pay-roll and asset management system
Principia	workbench for business system design and implementation
Seb10	electronic banking system
CABS	billing system for mobile or traditional telecomms operators
EASY	accounting software package
Pleiades	human resource management application
Investiciel	a back-office banking system

(iii) Industry Knowledge

Sema Group's main expertise lies in the banking and finance sector
followed by:

· defence
· industry
· public sector.

Banking and Finance

In France, Sema Group was heavily involved in the transformation of the
Paris stock exchange through its ownership of Tibet, which supplies
systems to the majority of Bourse members. Tibet also provided systems
operation services to nine stock market companies in 1992.

In 1991, Tibet gained a number of new clients including Deutsche Bank,
the European Bank of Tokyo and Banque Bruxelles Lambert
Intermédiâire.

In the U.K., the company has been heavily involved in the development of
treasury dealing systems, including a partnership with Reuters.

Sema Group also has considerable expertise in credit card management
and electronic funds transfer. 1991 saw the signing of a contract with
Barclays, who are adopting CardPac as the basis for the redevelopment of
their company card system.

In Spain, Sema has been working in collaboration with DEC in the
development of systems for Banesto and Asesores Burs tiles.

In 1990, the company also formed a division dedicated to the Spanish
insurance market.

Defence

Sema Group is a major international player in defence systems, while the
joint venture BAeSEMA applies advanced engineering design to
equipment, platforms and installations.

Sema Group has an in-depth understanding of defence technologies,
ranging from the construction of operating bases for the armed forces
through to the design of submarines, ships and vehicles and the systems
which they carry.

For example, in the United Kingdom BAeSEMA is playing a major role
the Weapons System integration authority for the update of the Swiftsure
and Trafalgar class submarines.

Another form of technical support given by Sema Group has been the definition of a performance specification for the Royal Navy's new *Merlin* ASW helicopter.

Through its established disciplines of naval architecture and marine engineering, BAeSEMA Sema continues to support navies around the world. In 1990, this experience was recognised by the award of a contract through which the naval architecture policy for surface ships and submarines in the Royal Navy will be managed for the next three years.

Sema Group is a pioneer in real-time information handling using Ada and has advanced software technology for high-speed interactive databases working over a distributed network.

Sema Group's main activity in defence telecommunications is its continuing development of network management, security and encryption systems for the French Army's integrated communications network RITTER. The company is also working with Thomson, lead contractor for the French Air Force's RA90 network, on the definition of the security and encryption system.

In 1990, Sema Group signed its first contract with Alcatel for a major software development programme for the *Syracuse* 2 satellite.

In the aerospace sector, Sema Group has been selected by the French National Space Studies Centre as an approved contractor. In Germany, the company is supporting MBB in their development of the orbital phase on-board software for the European space shuttle *Hermes*.

Industry

Sema Group's Industry Division covers the company's activities in the Manufacturing and Distribution sectors.

In the U.K., Sema Group concentrates on supplying services to clients with ICL-based manufacturing systems. The acquisition of Panther Systems has further strengthened Sema Group in this field, making the company one of the leading suppliers of OMAC and ORMA-related services. In France, Sema Group appears to have a close relationship with IBM and has a partnership with IBM for the installation of their PPS system which is beginning to replace COPICS in mainframe installations.

Sema Group has traditionally concentrated on large professional services projects within the Industry Division. However the company believed that its sales were being affected by its lack of

customers. For distribution activities, SEMA Group has a warehouse st
location product called CAP-ACITY, installed at 18 sites.

Examples of projects carried out by Sema Group in 1991 include:

United Engineering Steels	- strategic order handling and production system
Citroen (Spain)	- parts and spares handling system, including customs clearance
BNFL (U.K.)	- Management and control systems
SOLVAY Dupher (Dutch Solvay Group)	- Commercial management, production and research and development systems

Sema Group will be seeking to increase the penetration of its I-Linie
product, particularly within the United Kingdom and France, and to use
this product as a basis for increasing its access to large systems integratio
projects.

Public Sector

Two of Sema Group's major areas of activity within the public sector in
1991 were public administration and the health sector.

Projects carried out for public administration include:

· a feasibility study for the French National Centre for Scientific Research
  for a central information system.

· Development of software for the Paris city administration to control
  parking situations.

· A study of the IT equipment in the Spanish Ministry of Public
  Administration.

In the health sector, the Sema Group is a major systems operations vendor
in the United Kingdom.

In Belgium, Sema Group has carried out consultancy assignments covering
hospital management, replacement planning for medical equipment and
budget forecasting.

In Belgium, Sema Group has carried out consultancy assignments covering hospital management, replacement planning for medical equipment and budget forecasting.

Sema Group has also been involved in the development of networks supporting information retrieval projects for the European Commission and the company's Pleiades human resource management product is becoming well-established within the public sector in France.

(c) Strengths and Weaknesses

Sema Group's main strengths are its:

- professional services capability and in particular, the company's expertise in managing large bespoke projects

- system development methodology expertise and its development of tools to support these methodologies

- presence in the retail banking, defence and - to a lesser extent - manufacturing sector

- product portfolio in support of the company's activities in the retail banking sector

- presence in France, the United Kingdom and Spain.

The company's major weaknesses include its:

- lack of overall access to application software products

- the questionable competitive positioning of its I-Linie product range and the loss making German operation

- perception as a technology-based company

- failure to increase its geographic coverage to keep up with major competitors such as CGS.

The company's lack of access to application software products is exacerbated by its failure to develop a network of partnerships with leading application software product vendors in the manner adopted by competitors such as CGS and Andersen Consulting. Instead Sema Group has attempted to improve its product portfolio by acquisition. This is a high-risk strategy with questionable benefits in the systems integration market where access to a range of competing products may be more beneficial than outright

ownership of a limited product selection. In the short-term, this approach also leaves Sema Group without product offerings across a wide range of systems. While Sema Group's product offerings for the retail banking sector appear to be sound, the competitive positioning and geographic coverage of its I-Linie manufacturing sector product are potential weaknesses in the face of the strong competition from companies such as SAP, IBM and ASK in this sector.

(d) Conclusions

Sema Group was created in 1988 from Sema Metra and the CAP Group in an endeavour to create a leading European software and services vendor. However this momentum has not been maintained and the Sema Group has not continued to build a truly pan-European organisation by merging with or acquiring leading information services vendors elsewhere in Europe. In this respect Sema Group is in danger of lacking the pan-European systems integration capability being assembled by major competitors such as CGS and the equipment manufacturers. This could limit the company's success with the larger multinational organisations.

Sema Group remains a technically oriented organisation well respected by IS managers. While this is a strength in addressing the professional services market, Sema Group may lack the influence with senior executives necessary to win major systems integration contracts in the commercial sector. However Sema Group does appear likely to succeed in the defence systems integration market where BAeSEMA Sema has a high level of capability.

The company's policy of acquiring application software products rather than entering into partnership agreements limits the company's flexibility to respond to client wishes and may appear to damage its perceived appropriateness as an objective adviser.

In addition, in an open systems dominated environment, it may be difficult for Sema Group to spend the required sums on product development and promotion to maintain its products amongst the industry leaders. The approach being adopted by companies such as CGS appears more appropriate for addressing the systems integration market.

(e) Strategic Assessment - Sema Group

The Sema Group is a key example of the group of European vendors that occupies a position between the pan-European leaders on the one hand and those national vendors content to develop

opportunities in their home markets on the other, its position being further complicated by the significant stake held in it by CGS.

The Sema Group has achieved a strong reputation for its technical expertise in general and its knowledge and experience of software engineering methods and tools in particular. It has developed some strong applications product-based offerings and a number of joint-venture initiatives that provide it with the source of significant revenue opportunities.
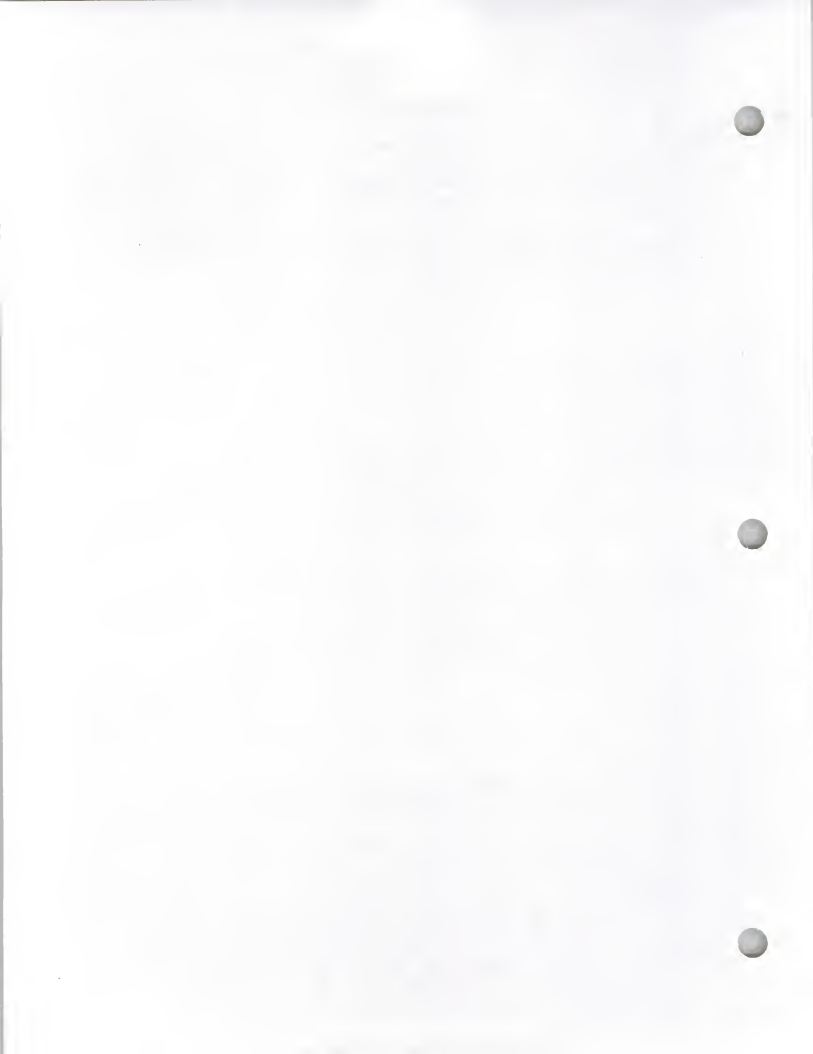
COMPANY PROFILE

SG2
104 avenue du Prèsident Kennedy
BP 215-16 - 75765 Paris Cedex 16
France
Tel: 33 1 40.50.20.00
Fax: 33 1 40.50.20.10

Chairman: Jean Krautter
MD: Georges Grima
Status: Subsidiary
Number of Employees: 1,908
Revenue (FYE 31-12-1992): FF 1,074 million

The Company

SG2 was founded in 1970 and is a wholly owned subsidiary of Geneparts. SG2 is one of the top ten French software and services vendors.

The company is organised in the following divisions:

· Services (electronic payment facilities, value added networks, outsourcing)

· Engineering (standard and customised software and software maintenance)

· Consultancy (management, organisational and project management)

Exhibit A

KEY EXECUTIVES

NAME	POSITION
Alain Creusillet	Deputy Managing Director
Alain Bridenne	Deputy Managing Director
Dominique Bellocq	Finance Director
Francis Lefebvre	HR Director
Jean-Michel Legros	Chairman of Orgaconseil
Catherine Poincelet	Communications Director

SG2 has offices throughout France and in Belgium, Italy and Hungary. It has the following subsidiaries, listed in Exhibit B.

Exhibit B

SUBSIDIARIES

NAME	COUNTRY	% OWNED
SG2 SA	France	100%
SG2 Gestion	France	100%
SG2 Finance et Tertiaire	France	100%
SG2 Industries et Télécoms	France	100%
SG2 Etudes regionales	France	100%
E3S	France	65.78%
SG2 Services	France	100%
Orgaconseil	France	51.11%
Paytronics	France	49.96%
Cofi	France	100%
Technique et Assistance	France	100%
SG2 Benelux	Belgium	100%
SG2 iberica	Spain	100%
SG2 italia	Italy	100%
SG2 Hongrie	Hungary	49%
SG2 Tunisie	Tunisia	20%

As of December 1992, SG2 employed 1,908 staff, a slight decrease on 1991 (1,935 staff).

In May 1990, SG2 acquired Mc2, France.

During 1990, SG2 acquired I2A, Spain.

Key Products and Services

The company is organised in the following divisions:

- Services (electronic payment facilities, value added networks, outsourcing)

- Engineering (standard and customised software and software maintenance)

- Consultancy (management, organisational and project management)

SG2 is active in most market sectors as defined by INPUT. They are as follows:

- Processing Services
- Software Products
- Network Services
- Turnkey Systems
- Professional Services
- Systems Integration

Processing Services

These services are mostly provided through SG2 Services to the banking and distribution sectors. SG2 processes financial transactions and manages payment authorizations.

Software Products

SG2 markets and develops a large number of software products to support the processing activity in the banking and finance sector. The software packages support financial management operations, file transfer and financial transactions for branch networks and SWIFT interfaces. SG2 also develops expert system shells.

Professional Services

SG2 professional services are tailored to support its technology and applications. This includes IS auditing, project management, training and custom made applications and maintenance.

System Integration

SG2 not only offers system integration to support its customers with their present systems configuration but also designs systems for specific applications.

Turnkey Systems

SG2 uses its SG2 ETUDES REGIONALES as distribution for turnkey system applications. SG2 offers turnkey system solutions based on BULL, DEC, Hewlett-Packard and IBM equipment.

Financial Information

Exhibit C is a financial summary of SG2's revenues for the past five years.

Exhibit C

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (FF MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	781	861	1,004	1,038	1,074
Annual Growth Rate (%)	7%	10%	17%	3.4%	3.5%
Profit/Loss before Taxes	32.8	20.2	39.7	45.9	40
Profit/Loss after Taxes	32.4	20.4	31.7	33.4	13.3

1992 saw increases in revenues from services. Electronic payment facilities sales rose by 6% to a level where this activity creates 40% of group turnover; value-added networks and outsourcing together grew by 12% with VANs leading the way at 20%.

Engineering declined by 3% overall while consultancy grew by 5.5%

Belgium declined by 20% and in Spain only a representative office is now maintained.

Market Analysis

Exhibit D

1992 MARKET ANALYSIS BY DIVISION

DIVISION	REVENUE (FF MILLIONS)	PERCENT
Services	617.5	57.5
Software Engineering	375.9	35.0
Consultancy	80.6	7.5
TOTAL	**1,074.0**	**100.0**

Source: SG2

Exhibit E

1992 MARKET ANALYSIS BY GEOGRAPHIC AREA

COUNTRY	REVENUE ($ MILLIONS)	PERCENT
France	195	98
Belgium/Lux'	4	2
Spain	1	<1
Eastern Europe	<1	<1
TOTAL INFORMATION SERVICES	**200**	**100**

Source: SG2

Exhibit F shows the industry analysis of SG2's 1992 revenues.

Exhibit F

1992 MARKET ANALYSIS BY INDUSTRY SECTOR

INDUSTRY SECTOR	REVENUES ($ MILLIONS)	PERCENT
Discrete Manufacturing	17	9
Process Manufacturing	4	2
Transportation	1	1
Retail Distribution	7	4
Banking and Finance	120	60
Insurance	12	6
Health care	17	9
Education	4	2
Local Government	6	3
National Government	8	4
Business Services	6	3
Other Industries	5	3
TOTAL SOFTWARE AND SERVICES	**200**	**100**

Note: Numbers are rounded

Exhibit G shows the analysis of SG2's revenues across INPUT's market sector definition.

Exhibit G

1992 MARKET ANALYSIS BY INPUT SERVICE MODE

INPUT SERVICE MODE	REVENUES ($ MILLIONS)	PERCENT
Application Software Products	10	5
Professional Services	60	30
Systems Integration	20	10
Systems Operations	36	18
Network Services	40	20
Processing Services	34	17
TOTAL SOFTWARE AND SERVICES	200	100

 July 1993

COMPANY PROFILE

SLIGOS
3 Place de la Pyramide
Cedex 49
92067 Paris La Defense
France
Tel: 33 1 49 00 90 00
Fax: 33 1 47 73 07 63

Chairman: Gèrard Bauvin
Vice-Chairman and CEO: Henri Pascaud
Status: Public
Number of Employees: 5,718
Revenue (FYE 31-12-92): FF 3.64 billion

The Company

Sligos is a public company, listed on the Regular (continuous) market of the French Bourse since May 1988.

Sligos was created in 1973 when Sliga, a subsidiary of the Crèdit Lyonnais, was merged with Cegos Informatique, a consultancy firm involved in the management of data processing.

From the start, the group was highly active in the field of computerised fund transfers, even inventing and registering as a trademark the French term "monètique", which designates the whole sector. A processing centre was set up to service the Carte Bleue payment-card network, and by 1981 the group had introduced the first bank/retailer network-switching system. In 1983, Solaic, the largest plastic-card manufacturer in France, was acquired. Since then, Sligos has been instrumental in all of the sector's major transformations, including interconnecting national and international Electronic Funds Transfer (EFT) networks, launching private label card services and initiating a new bank-check guarantee service. In parallel, the group forged a leading position in the integration and manufacture of IC card systems.

Taking advantage of the rapid development of videotex communications in the 1980s, Sligos became a major actor in the field. At the same time, the group continued to expand in the complementary sectors of microcomputers and computer engineering, and also started the extension of its services abroad.

In December 1986, 10% of Sligos's capital was introduced on the Paris Bourse's Second Market. By the end of fiscal 1987, the group's 25% average annual growth rate posted since 1982 pushed consolidated revenues up to FF 1.4 billion. In 1988, Sligos acquired a 53.5% stake in CMG, a leading French computer-engineering specialist, and the group generated consolidated sales of more than FF 2 billion.

In May 1988, after a two-for-one stock split, the company's listing was transferred from the Second Market of the Paris stock exchange to the more active monthly-settlement market.

In 1989, Sligos acquired 75% of the capital of Actis GmbH for FF 70.7 million.

In November 1989, the company issued FF 451 million worth of convertible bonds in order to finance its European expansion.

The shareholders of the company at 31 December 1992 are shown in Exhibit A.

Exhibit A

SHAREHOLDERS

SHAREHOLDER	PERCENT OWNED
Credit Lyonnais	58.3
Caisse des Depôts et Consignations	3.7
Via Banque	6.3
Public	31.7

Since 1989 Sligos has concentrated its development outside of France, in Germany, Spain, Italy and the United Kingdom. The company now employs about 2,000 people in these countries, which accounted for approximately 33% of overall turnover in 1992.

Foreign sales to date have been generated largely by Sligos' expertise in the electronic fund-transfer sector. Recent international projects include consulting, system engineering, integration of smart card technology into existing networks and supply of plastic cards in Europe, the Middle East and Africa.

Exhibit B lists the executive management of the company.

Exhibit B

KEY EXECUTIVES

POSITION	NAME
Chairman	Gérard Bauvin
Vice-Chairman and CEO	Henri Pascaud
Executive VPGérard Delputte	
VP and Chief Financial Officer	Frédéric Brunet
Executive VP International	François Dutray.
Executive VP Human Resources	Luc Bauvin

In 1992, revenues reached FF 3.6 billion and net profit FF 173 million.

At 31 December 1992 the capital of the company was FF 121,253,100, representing 4,850,124 shares.

Organisational Structure   Exhibit C shows the organisational structure of Sligos and lists its major subsidiaries and shareholdings.

Exhibit C

SLIGOS			
SYSTEMS DEVELOPMENT	**BANKING & CARD PROCESSING AND VALUE-ADDED SERVICES**	**PAYMENT MEDIA**	**PC SYSTEMS**
Maintec FRANCE 100%	Pénélope FRANCE 95%	Solaic FRANCE 100%	CMG FRANCE 100%
Pink E. FRANCE 100%	Monemag FRANCE 57.5%	Sati FRANCE 100%	
Sligos Servicios Informaticos SPAIN 100%	Sertech FRANCE 100%	Cidel FRANCE 100%	
Actis GERMANY 75%	Sligos Payment Services* UNITED KINGDOM 51%	Satel FRANCE 100%	
Höll GERMANY 51%	B + S Card Service GERMANY 53%	Poli-Rub 100%	
Mesarteam ITALY 70%			Gie Recherche et Innovation FRANCE 100%
Ikoss GmbH GERMANY 52%			Sté Immobilière Industrielle Faidherbe FRANCE 100%
			Faidherbe SA SPAIN 100%

* formerly Nexus

Recent Acquisitions

Sligos made a number of acquisitions in 1990, 1991 and 1992, extending its European coverage in Germany, Spain and the U.K., and increasing its presence in its domestic market.

1990 Acquisitions:

· Acquired MESARTEAM - an Italian company specialising in computer systems development for industrial companies. The company has offices in Turin, Milan and Rome and employs 300 people. Sligos acquired a 65% stake and consolidated revenues of FF 152.4 million in 1990.

· Acquired MAINTEC - a French company based at Arras and focussed on software re-engineering and conversion. Sligos acquired 100% of the equity, which contributed FF 13 million of revenues in 1990.

· Acquired SERTECH - another French company providing cheque processing services and system development work for banks. SERTECH was fully acquired and achieved an FF 85 million turnover in 1990.

· Acquired PINK E. - was created with a 60% holding by Sligos in association with a Dutch company PINK ELEPHANT. The company is dedicated to supporting and running BULL data centres. Consolidated revenues for 1990 were FF 4.9 million.

· Acquired PROCESA - this company was fully acquired in Spain. It specialises in banking systems and electronic funds transfer. Employing 70 people, it generated FF 50 million in revenues in 1990.

1991 Acquisitions:

· Acquired 51% of German software company Hₗll, which sells its own stocks and securities management software package interfaced with ACTIS' PABA software package. The company had 1991 revenues of FF 10 million.

· Acquired 70% of Spanish professional services company Med-Informatica-Sligos. The company, based in Barcelona, achieved 1991 revenues of FF 54 millions and employs 190 people. It specialises in professional services for the banking sector and has developed a number of bank management and payment systems.

- Sligos purchased 100% of O.DATI Espa ola *. This Spanish company offers professional services to financial institutions, mostly based in Madrid, although it is also active in the insurance and industrial markets. O.DATI employs 170 people and achieved 1991 revenues of FF 53 million.

* Now regrouped under the name of Sligos Servicios Inform ticos.

1992 Acquisitions:

- In Germany, Sligos acquired 52% of IKOSS, which has offices in Stuttgart, Aachen, Frankfurt, Berne and Z rich. IKOSS specialises in computer-aided engineering, design and manufacturing and develops and sells software architecture in the Digital Equipment environment under UNIX. The company has clients in the Banking sector, the Oil industry and the Telecommunications market. IKOSS employs 350 people and its 1992 turnover was FF 241 million.

- Also in Germany a 52.3% stake in B + S Service, a company of 272 employees specialising in card-processing services, was acquired.

- In the U.K., Sligos acquired Nexus, which employs 100 staff and achieved a 1992 turnover of FF 94 million. Nexus - now renamed Sligos Payment Services - specialises in banking and payment systems services, and particularly in the management of ATMs and EFT POS terminals.

Key Products and Services

(i) Technologies

Sligos is particularly experienced in providing network services relating to the banking and finance sector such as credit card processing, electronic funds transfer, and even home shopping via videotex.

Sligos is maintaining its permanent research commitments, especially in networks, languages and artificial intelligence. Projects include the high-speed broad-band experimental (optical fibres) network for France Telecom.

Sligos holds a predominant position in the videotex market, where more than 50,000 terminals connect daily to the group's network with over 4.5 million professional electronic-data interchanges handled annually. (The company also supplies systems and network software).

(ii) Industry Knowledge

Sligos' main areas of expertise lie in the Banking and Finance and
Manufacturing sectors.

In the Banking and Finance sector, Sligos specialises in bank card
processing and electronic funds transfer and banking system
development.

Much of Sligos' activity in this area consists of processing of credit
card payments. Sligos also undertakes the development of
customised payment systems for distributors and other large
companies. For example, Sligos recently implemented a point-of-
sale system for Shell service stations. In addition, Sligos
manufactures personalised cheque books. In the business of
payment system engineering and processing, which accounts for
almost half of total sales, Sligos has pioneered technological
breakthroughs in memory-chip payment cards (a world leader in the
plastic-money segment and interbank network-switching systems).

Sligos also has a significant presence in the manufacturing sector, in
France and abroad, through its subsidiaries Actis (Germany) and
Mesarteam (Italy).

Sligos is one of France's largest companies in the computer-services
field. As both systems architect and installer, the group claims to
combine state-of-the-art engineering solutions with sophisticated
information-processing equipment and systems. Sligos's operations
cover a diversified range of client needs: banking and financial
data-processing, payment media, information systems for large
corporate clients/public authorities, industrial process management,
server and network servicing as well as overall design and
management of data-processing techniques.

Microcomputer Expertise

In microcomputing, Sligos distributes and services microcomputers
and supplies software aimed at tailor-made solutions for
small/medium/large corporations and chartered accountants. The
revenue distribution in this area is as follows:

Hardware Systems	41%
Software and services	34%
Accessories	13%
Maintenance	12%

Systems Development

This activity accounts for about 20% of Sligos's revenues. More than 1,000 of the professional staff are engaged in the development of information processing projects and applications in all aspects of industrial automation as well as management planning and quality control. The following is a breakdown of this sector into its three industry groups:

Banking/insurance/services/energy	44%
Industry	40%
Public administration	16%

Network Services

Sligos holds a predominant position in the videotex market, where more than 50,000 terminals connect daily to the group's network with over 4.5 million professional electronic-data interchanges handled annually. (The company also supplies systems and network software.)

This fast growing sector is split into two areas - the provision of services for companies (for internal use or for dealing with clients), and public systems (videotex). The breakdown between the two is as follows:

Public/videotex	75%
Private/company services	25%

Financial Information

Exhibit B provides a six-year financial summary.

Exhibit B

SIX-YEAR FINANCIAL SUMMARY (FYE 31-12) (FF MILLIONS)

YEAR	1987	1988	1989	1990	1991	1992
Revenues	1,444	2,080	2,556	2,899	3,211	3,644
Annual Growth Rate (%)	24	44	23	13	11	13.5
Profit before Taxes	160.1	200.7	279.9	282.6	331.6	301.9
Annual Growth Rate (%)	62	25	39	1	17	(9)
Profit after Taxes	76.3	98.5	133.5	160.2	170.7	172.8
Annual Growth Rate (%)	136	29	36	20	7	1.23

Market Analysis   Exhibit C

1991 MARKET ANALYSIS BY SLIGOS-REPORTED ACTIVITY

ACTIVITY	REVENUES (FF MILLIONS)	PERCENT
Systems Development	1,169.6	32.3
PC Systems	406.0	11.1
Solutions for accounting firms and small and medium-sized businesses	130.0	3.5
Banking and Card processing services	1,259.4	34.5
Payment media	441.8	12.1
Corporate data processing services	237.3	6.5
Total	**3,644.1**	**100**

Source: Sligos

Note: Numbers are rounded

Exhibit D shows a breakdown of estimated Information Service revenues by European Country.

Exhibit D

1992 MARKET ANALYSIS BY COUNTRY AND EUROPEAN INFORMATION SERVICES

COUNTRY	REVENUES* ($ MILLIONS)	PERCENT
France	380	72
Germany	110	21
Italy	15	3
Europe Balance	16	3
TOTAL INFORMATION SERVICES	**525**	**100**

* INPUT Estimates

Note: Numbers are rounded

Exhibit E

1992 MARKET ANALYSIS BY INDUSTRY SECTOR EUROPEAN SOFTWARE AND SERVICES

INDUSTRY SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Discrete Manufacturing	70	14
Process Manufacturing	35	7
Utilities	15	3
Retail Distribution	20	4
Wholesale Distribution	20	4
Banking and Finance	230	45
Insurance	25	5
Local Government	25	5
National Government	50	10
Business Services	20	4
TOTAL SOFTWARE AND SERVICES	**510**	**100**

* INPUT Estimates

Note: Numbers are rounded

Exhibit F shows INPUT's delivery mode analysis of Sligos' 1991 revenues.

Exhibit F

1992 MARKET ANALYSIS BY DELIVERY MODE

DELIVERY MODE	REVENUE* ($ MILLIONS)	PERCENT
Application Software Products	15	2
Turnkey Systems	100	14
Professional Services	100	14
Systems Integration	25	4
Systems Operations	10	1
Network Services	50	7
Processing Services	210	30
Total Software and Services	510	74
Equipment Services	15	2
Total Information Services	525	76
Equipment/Other Revenues	165	24
TOTAL EUROPEAN REVENUES	**690**	**100**

* INPUT Estimates

                   July 1993

Strategic Analysis   **(a)   Company Direction**

Management strategy continues to be focused on consolidating leading French and European positions for each of the group's complementary sectors of operations.

In France, the rest of Europe and the United States, particular growth potential is seen in the banking/financial information-system sector. Providing computer solutions for small/medium-sized companies is also expected to assure expansion in France, while in other European countries Sligos is focusing on the market for internal corporate networks and servers as well as information systems for large companies and administrations.

During 1990 Sligos undertook a significant reorganisation of its activities in order to focus on large corporate needs on the one hand and on the needs of personal computer systems support on the other. Effectively the focus of competences represented by Sligos itself and CMG.

On-going strong internal growth is being backed by an ambitious acquisition programme in European markets. Group objective: to generate 25% of revenues from sources outside France. GÖrard Bauvin would like Sligos to reach revenues of FF 5 billion by 1993.

In 1991, foreign subsidiaries in Germany, Spain, Italy and the U.K. accounted for 15% of overall revenues. Sligos is confident that this will increase to 20% by the end of 1992.

Overall Sligos is endeavouring to extend its European coverage outside France, while concentrating on expanding its activities in its two main sectors: Banking and Finance and Manufacturing.

(i)   Consulting

Sligos so far shows no sign of establishing a management consultancy capability to assist the company in winning large projects.

However the company does have consultants capable of assisting clients in the banking and finance sector in areas such as marketing, organisation and human resources.

(ii) Geographic Coverage

In 1991, 85% of Sligos' revenues were accrued in France, though the
company's aggressive acquisition policy should soon assist the
company in moving towards its goal of achieving 25% of its
revenues from outside France. However even the achievement of
this target will leave the company trailing considerably behind its
major rival CGS in its penetration of the European software and
services market.

Foreign sales to date have been generated largely by Sligos'
expertise in the electronic fund-transfer sector. Recent
international projects include consulting, system engineering,
integration of smart card technology into existing networks and
supply of plastic cards in Europe.

Sligos has also built up the capability to address the manufacturing
sector in Germany and Italy through its acquisition of Actis and
Mesarteam. It has also significantly increased its focus on the
banking and finance sectors in Spain with the acquisition of
O.DATI Espa ola and Med Informatica-Sligos.

Sligos has a marketing agreement with IBM permitting IBM to
market MANAGIX's EXC products to the accounting profession. It
also has formed partnerships with Hewlett Packard, Digital, Apple,
Toshiba and Compaq.

(b) Strengths and Weaknesses

Despite the company's expertise in the manufacturing sector, Sligos'
principal strength lies in payment systems using technologies such
as:

· Electronic funds transfer
· Smart cards
· Videotex.

Bank card processing is a particular strength of Sligos.

Sligos' main weakness has been its lack of European coverage, a
situation the company is addressing successfully with its recent
European acquisitions. Sligos' other weakness is its lack of
management consultancy capability. It is possible that the company
will try to strengthen its consultancy business through further
acquisition.

The company's vertical market presence is limited compared to that of its major rivals. Its main areas of expertise lie in the banking and finance and manufacturing sectors.

(c) Conclusions and Strategic Assessment

Sligos is one of the largest independent software and services vendors in France but its activities are still largely concentrated both within France and within a number of niche activities.

Sligos' ambitions to increase its geographic coverage are supported by its International division. The division is dedicated to managing and developing the Group beyond French borders through its subsidiaries. It is also in charge of acquisitions and multinational projects for the Group's large customers.

Sligos is an example of an ambitious services-based organisation attempting to achieve a pan-European leadership position in its selected market sectors, notably banking and finance. It has pursued these ambitions through an aggressive acquisitions policy historically in its home market France, but most recently in Germany, Spain, Italy and the U.K.

Supported financially by its major shareholder Credit Lyonnais, Sligos can be expected to continue to pursue its acquisition strategy and the development of its key applications and technologies to support the banking and finance area.

In its target country markets, Sligos can be expected to represent a significant competitive challenge to other vendors within the specialist markets in which it operates.

COMPANY PROFILE

SOFTWARE AG
Uhlandstrasse 12
Postfach 1300 251
6100 Darmstadt 13
Germany
Tel: 49 61 51 92-0
Fax: 49 61 51 92-1191

Status: Private (100% shares held by
Software AG)
Number of Employees:
Germany 1,212
Worldwide 4,407
Revenue (FYE 31-12-92):
Group DM 780 million
Company DM 617.3 million

The Company

Software AG was founded in 1969 in Darmstadt, Germany and is one of
the world's largest independent software vendors.

It sees its mission as that of a service provider, differentiated by superior
software technology.

The company is a leading supplier of systems software, particularly in the
technologies of database technology (ADABAS) and application development
(NATURAL).

Around 5,200 organisations use Software AG products, which are available
through affiliates and partners in 60 countries. Software AG Germany is the
worldwide head office and Software AG North America is in charge of the
U.S. and overseas. The company is organised into major business areas:

*   Middleware
*   Application solutions
*   Professional services
*   Education
*   Consultancy
*   Customer services

Total group revenues for 1992 were DM 780 million (1991: DM 712 million)
including wholly owned subsidiaries and international affiliates. Consolidated
performance for Software AG (excluding the licence shares retained by
international affiliates) amounted to DM 617.9 million (1991: DM 556.4
million).

Financial Information

Exhibit A

FOUR-YEAR FINANCIAL SUMMARY
(GROUP REVENUES INCLUDING AFFILIATED COMPANIES)
(FYE 31-12)

YEAR	1989	1990	1991	1992
Group Revenue (DM Millions)	526.9	584.0	712	780
Annual Growth rate%	23	11	22	10

Source: Software AG

Software AG reports that it has been profitable every year since its foundation in 1969.

Exhibit B

FOUR-YEAR FINANCIAL SUMMARY FOR SOFTWARE AG
(EXCLUDING AFFILIATED COMPANIES)

YEAR	1989	1990	1991	1992
Revenue (DM Millions)	436.2	458.9	556.4	617.9
Annual Growth rate%	-	15	21	11
Profit before Taxes (DM Millions)	-	30.9	40.5	19.3
Profit after Taxes (DM Millions)	-	3.4	13.3	8.4

 October 1993

Exhibit C

TWO-YEAR MARKET ANALYSIS BY BUSINESS AREA
(SOFTWARE AG CLASSIFICATION)

BUSINESS AREA	1991 REVENUE* (DM MILLIONS)	PERCENT	1992 REVENUE (DM MILLIONS)	PERCENT
Licence	259.8	36%	267.2	35%
Maintenance	176.3	25%	208.0	26%
Application	153.8	22%	188.8	24%
Training	40.6	6%	41.4	5%
Consultancy	24.5	3%	32.9	4%
Other +	57	8%	41.6	6%
TOTAL	**712**	**100%**	**780**	**100%**

Source: Software.AG

* These figures relate to the Software AG Concern companies plus other sales partners supplying Software AG systems to other foreign markets.

+ "Other" includes sales from various operations within the Software AG Group including hardware transactions with sub-contractors, system engineering services and sales of documentation products.

Exhibit D

TWO-YEAR MARKET ANALYSIS BY GEOGRAPHIC AREA

GEOGRAPHIC AREA	1991 REVENUE* (DM MILLIONS)	PERCENT	1992 REVENUE (DM MILLIONS)	PERCENT
Europe	449	63%	503	64%
U.S.	146	21%	163	21%
Overseas	117	16%	114	15%
TOTAL	**712**	**100%**	**780**	**100%**

Source: Software AG

Exhibit E

ESTIMATED REVENUES BY INDUSTRY SECTOR, SOFTWARE AND SERVICES, EUROPE - SOFTWARE AG, 1992

	REVENUES ($ MILLIONS)	SHARE (%)
Industry Sectors:		
Discrete Manufacturing	15	5
Process Manufacturing	5	2
Banking and Finance	15	5
Insurance	5	2
Healthcare	5	2
Local Government	5	2
National Government	5	2
Business Services	5	2
Systems Software Products	260	81
Total Software and Services	320	100

Source: INPUT estimates

Exhibit F

ESTIMATED REVENUES BY DELIVERY MODE, SOFTWARE AND SERVICES, EUROPE - SOFTWARE AG, 1992

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	260	81
Application Software Products	5	2
Turnkey Systems	40	13
Professional Services	15	5
Total Software and Services	320	100

Source: INPUT estimates

                   October 1993

Exhibit G

ESTIMATED REVENUES BY COUNTRY, INFORMATION SERVICES, EUROPE - SOFTWARE AG, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	35	11
Germany	120	38
U.K.	35	11
Italy	15	5
Spain	34	11
Switzerland	5	2
Austria	8	3
Europe Balance	72	23
Total Information Services	' 320	100

Source: INPUT estimates

Organisational Structure

In 1990, a worldwide operations board, representing all aspects of Software AG's business was created to resolve global business issues quicker. Software AG's senior management frequently consults with customers and industry analysts to ensure that decisions are consistent with market needs.

Software AG relies on affiliates and partners to help create "Solutions Worldwide" but its strategic partnerships extend beyond sales to include distinguished consultants, hardware manufacturers, communication vendors and many others.

Exhibit H

SHAREHOLDERS

NAME	PERCENT OWNED
Software Industrie - Stiftung	2
Software AG -Stiftung (non-profit)	98

Exhibit I and Exhibit J list Software AG's major subsidiaries.

Exhibit I

MAJOR SUBSIDIARIES-1

GERMAN SUBSIDIARIES	PERCENT OWNED
Software GmbH Marketing	100
Software Middle East GmbH,	100

Exhibit J

MAJOR SUBSIDIARIES-2

FOREIGN SUBSIDIARIES	COUNTRY	PERCENT OWNED
Software AG Systems Inc, Reston Virginia/USA incl. SOFTWARE AG of North America Inc., (SAGNA) and others.	U.S.	100
Software AG Ltd., UK	U.K.	100
Software AG France SA	France	100
Software AG Italia SpA	Italy	100
Software AG Belgium SA,	Belgium	100
Software AG Nederland B.V	Netherlands	100
NORDISK Software AG A/S, with indirect subsidiaries:	Denmark	100
Software AG Norge A/S,	Norway	100
Software AG Sverige AB,	Sweden	100
Oy Software AG Finland	Finland	100
EDV Software AG,	Austria	100
Software AG Czechoslovakia sro	Czech Repub	100
DKW Systems Corporation,	U.S.	100
Software AG Federal Systems Inc	U.S.	100
Software AG Information Systems Trade A.S	Turkey	90

   October 1993

In December 1992, Software AG employed 4,407 staff (1991: 4,282) including employees in associated companies.

Exhibit K

GROUP EMPLOYEE ANALYSIS 1992
(1991 FIGURES IN BRACKETS)

GEOGRAPHIC AREA	NUMBER OF EMPLOYEES	
Europe	2,336	(2,336)
U.S.	795	(686)
Overseas	1,065	(1,260)
TOTAL	4,407	(4,282)

Exhibit L

1992 EUROPEAN EMPLOYEE ANALYSIS
(1991 FIGURES IN BRACKETS)

COUNTRY	NUMBER OF EMPLOYEES	
Germany	1,349	(1,200)
Spain	458	(450)
U.K.	162	(150)
France	240	(240)
TOTAL	2,547	(2,336)

Major Recent Projects:

- For the City of San Antonio, Texas: In collaboration with the client to implement a fault-tolerant emergency services dispatch system based on a client/server design linking mainframes, UNIX and PCs.

- For the Spanish National Institute for Employment (INEM): in collaboration with the client using Software AG products to build a country-wide distributed information processing system.

- For Podnik vypocetni techniky in Czechoslovakia in 1991: with Digital Equipment Corporation, develop the largest and most modern network in the country based on 75 VAX computers.

- For Otis Elevator: supply of software as part of programme to standardise worldwide IT operations on Software AG products.

- Nissan Motor Company in Japan has installed a system, developed with ADABAS and NATURAL which, among other things, enables customer-specified details of car features to be incorporated in orders which are fulfilled in days rather than weeks as in the past.

- Citibank Singapore has implemented a new corporate strategy - Global Relationship Banking - designed to ensure a seamless service to its customers worldwide. Software AG technology and services have been chosen.

- Turkish Airlines has implemented a complete integrated system to meet all its requirements based on Software AG technology.

Key Products and Services

Software AG has six primary areas of business:

- Middleware
- Application solutions
- Professional services
- Education
- Consultancy
- Customer services

Middleware

Middleware is the foundation of Software AG's corporate heritage and now extends far beyond the mainframe to meet customers' needs for portable and interoperable applications, especially in UNIX environments.

Software AG is creating portable solutions under the banner of ENTIRE Technology, founded on Software AG's open Integrated Software Architecture (ISA) - which allows users to take advantage of a multitude of different hardware/software platforms.

               October 1993

Application Solutions

An ever-growing area of business for Software AG is application solutions. The company offers a creative resource of core application modules to provide customer support during all phases of the project life cycle. By combining a base package with other Software AG tools and professional services, the clients have a full range of powerful alternatives available to them.

Professional Services

The professional services group helps customers build strategic solutions. It handles development and implementation functions, from needs analysis and requirements definition through to system design, creation, coding and testing, systems documentation, user training and business implementation.

Education

Education has expanded beyond product courses to include a wide variety of other DP topics. Software AG offers customers help in emerging topics of interest such as CASE and client/server technology on site.

Consultancy

The consultancy group provides assistance in developing information strategies, in formulating executive information systems, in choosing standard software packages, in selecting hardware and networks, in developing migration strategies and in reorganising computer centres.

Customer Services

Software AG seeks constantly to ensure that customer support offers the same quality and attention to detail that its products provide.

Products

Software AG's flagship products are ADABAS, NATURAL and the ENTIRE product family.

Core products were made available on all significant hardware platforms and operating systems during 1990 in the open Integrated Software Architecture (ISA) programme. ISA products are now available for IBM and Siemens mainframes, for more than 25 UNIX platforms and workstations, Digital and Wang systems, IBM PCs, OS/2, Windows and Apple.

They enable full portability across many different computers of all sizes and give users unprecedented freedom in their choice of hardware and operating environments.

Applications Development Technology

The foundation for Software AG's continued success in application development tools is NATURAL, the proven fourth generation language that significantly increased productivity. NATURAL was further strengthened through new enhancements for: PREDICT, Software AG's integrated active dictionary, NATURAL CONSTRUCT, a powerful application generator that uses models to generate reliable, tested code, and PREDICT CASE, an integrated CASE tool that supports the analysis and design phases of the system development life cycle.

NATURAL is now available for Windows and PM (Motif will follow) and thus supports client/server applications in heterogeneous environments.

PREDICT is an "open" active data dictionary. PREDICT's metastructure can now be extended in accordance with customized client standards due to its new, user-defined entities. Furthermore, support for DB2, SQL/DS, Rdb, RMS and DMS has been significantly enhanced. Software AG will have an open repository that supports the industry-standard data exchange format (CDIF) on all platforms including UNIX, VMS and mainframe.

Database Solutions

ADABAS is a powerful database system which allows widely different conceptual models to be easily implemented - such as flat tables, text, geography and structures based on entity relationships. For more than 20 years, ADABAS' evolutionary approach has enabled it to accept new data models. Future enhancements will include increased performance and the ability to support and integrate new data models such as object orientation. ADABAS has an optional NIST-proved ANSI SQL interface.

ENTIRE SQL-DB is an advanced relational DBMS for UNIX platforms supporting important features including domains, primary keys, referential integrity, triggers and stored procedures. It has an optional ORACLE compatibility mode and is compliant with SQL standards (ANSI, X/OPEN, SAP).

Information Processing Solutions

ENTIRE OFFICE provides the strategy for Software AG's Universal Office using the powerful management and distribution system CON-NECT, the information retrieval system NATURAL DOCUMENT MANAGEMENT, and the decision-support and query system SUPER NATURAL. With these tools, Software AG provides a seamless, integrated solution for end-user access and information processing requirements, including image solutions.

Computer Centre Management Solutions

Software AG computer centre products, each implemented using NATURAL, provide a common and comprehensive set of tools - job scheduling, console support and output management.

Open Communications

ENTIRE allows users to develop new applications or move existing ones to distributed computing environments. It uniquely encompasses mainframe and midrange (UNIX) computing as well as workstations and PCs.

Company Strategies

(a) Company Direction

Over the past twenty years, Software AG has aimed to develop into a supplier of a broad range of products, based on superior technology, in the following areas:

- Database management
- Client/server and networking
- Application development
- End-user functionality and products
- Application solutions

In addition, a services area has been established which operates in three different fields:

- Education
- Professional services
- Management consultancy

Software AG is currently acquiring specialist knowledge in a wide range of fields, in order to communicate with customers at all levels, from data processing to end-user areas, to corporate management.

Software AG does not regard itself as a software supplier anymore, but rather as a provider of solutions and a business partner for its customers. An example is applications solutions. SOFTWARE AG's strategy is to produce core solutions that can be used as a basis for creating comprehensive tailor-made systems for individual customers.

The company's strategy also includes expansion of its training business.

SOFTWARE AG sums up its future direction in three key areas: data processing, customer orientation and object orientation. The company's emphasis is on data processing solutions that fulfil customers' needs and expectations. It has been following this customer-driven approach ever since its foundation and plans to continue to implement it in the form of practical concepts and product lines.

The company has adopted two strands of development. Firstly, the development of its ENTIRE Technology, which allows users to take advantage of a multitude of different hardware/software platforms.

Secondly, the company's development from a software supplier into a solutions and systems house. The ENTIRE concept enables the integration of existing data processing environments into developing hardware and software environments. This allows evolutionary migration from centralised data processing to the world of client/server.

ENTIRE Technology will allow the integration of object-oriented applications. To further the development of object orientation, Software AG belongs to the Object Management Group (OMG.)

(i) Consultancy

Software AG's consultancy activity achieved revenues of DM 32.9 million in 1992, an increase of 34% over 1991. The company plans to expand its consultancy in the future as part of its solutions-driven approach.

(ii) Partnerships

SOFTWARE AG is focusing on strengthening its strategic alliances with selected partners in order to be able to offer as comprehensive a service range as possible. The company already has formed partnerships with other software vendors such as Microsoft and equipment vendors such as Hewlett Packard, ICL and SNI.

(b) Strengths and Weaknesses

Software AG's main strengths can be summarised as:

• Largest European-based independent software company

• Close supportive relations with customers

• Strong government and financial expertise

• Reputation for technological innovation

Software AG is one of the worlds leading privately owned software companies and is Europe's largest. The company has representatives in 60 countries and markets its products worldwide. Its worldwide presence, together with its reputation as an established vendor with a stable financial history, makes Software AG a strong competitor.

The company is particularly strong in the manufacturing, government and finance sectors.

Software AG has always had a strong reputation for technological development. Its flagship products are ADABAS, its database management system, ENTIRE and NATURAL, a fourth generation language.

Introduced in 1991, ENTIRE Technology will support the development and delivery of client/server applications using Software AG and third-party products.

The main challenge for Software AG will be to move away from the mainframe market and to successfully market its ENTIRE Function Server products to its customer base.

(c) Conclusions

Software AG has pursued a policy of steady growth since 1969, usually in the realm of 20-25% per annum. This, together with a strong financial policy, has given Software AG a reputation for stability.

Software AG has traditionally developed systems for the mainframe environment, but has now moved into the UNIX arena at a much later stage than other vendors. The company's strategy for its UNIX offerings focuses on delivering to existing customers, as a means of migrating to open systems and to small and medium-sized businesses via third-party vendors.

1991 saw the delivery of the first components of Software AG's ENTIRE Function Server Technology.

Incorporating the Macintosh into ENTIRE is a key element of Software AG's ENTIRE Client Workstations (EWS) strategy. EWS is designed to allow SOFTWARE AG customers to take advantage of modern graphical user interfaces as they move to client/server solutions.

Two Software AG products are currently available for the Macintosh: NATURAL Architect Workstation and NATURAL CONNECTION for the Macintosh.

In 1992, Software AG expects its UNIX product line to make a significant contribution to turnover, forecasting on an increase of 15% in product revenue over 1991.

In the past, the main competitive threat to Software AG has come from IBM with its DB2 offering. Software AG responded to this by broadening its product range.

Now it is responding to industry trends by porting systems to UNIX platforms and developing new products.

The company is shifting its emphasis from marketing itself as a software provider to that of a solutions company. INPUT expects Software AG to move increasingly into the professional services market.

STERIA Group
12 Rue Paul Dautier
78142 VÉLIZY Cedex
France

Tel: 33 1 34 88 60 00
Fax: 33 1 34 88 62 62

Honorary Chairman:
Jean Carteron
Chairman: Michel Gautier
Status: Public (S.A.)
Number of Employees
(May 1993): 2,350
Revenue (FYE 31-12-92):
FF1,079 million (World)
Revenue (FYE 31-12-92):
FF1,029 million (Europe)

The Company   Steria was founded in 1969. It is an international computer research,
design and development group operating in the fields of databases,
networks, telecommunications, software products, expert systems,
computer-aided design and commercial application areas (management,
production, personnel, finance, communication).

Steria has European operations in France, Germany, Belgium, Spain
and Switzerland. Additionally it is also active in Saudi Arabia.

It serves primarily the following industry sectors;

- Industry and transportation
- Public administration and public services
- Banking and securities
- Defence and aerospace
- Insurance and other service industries.

Financial   Exhibit A gives a summary of the recent financial performance of the
Information   Steria Group:

Exhibit A

FIVE YEAR FINANCIAL SUMMARY (FYE 31-12) (FF MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	754	879.5	910	1,048	1,071
Annual Growth Rate (%)	1	17	3	15	2
Profit (net)	31.5	18	20	12	(18)

Source: Steria

Market Analysis   Exhibit B shows a breakdown of the Steria group's 1992 revenues by
geographic area, while Exhibit C shows a split by industry sector
served. Exhibit D analyses revenue by service mode.

Exhibit B

1992 MARKET ANALYSIS BY GEOGRAPHIC AREA (FF MILLIONS)

COUNTRY	REVENUE	PERCENT
France	920	86
Germany	26*	2
Spain	39*	4
Belgium	19*	2
Switzerland	25*	2
Total Western Europe	**1,029**	**96**
Rest of World	42	4
TOTAL	**1,071**	**100**

*Source: Steria and *INPUT estimates*

Exhibit C

**1992 EUROPEAN MARKET ANALYSIS BY INDUSTRY SECTOR
STERIA (FF MILLIONS)**

INDUSTRY SECTOR	REVENUE	PERCENT
Manufacturing	124	12
Transportation	123	12
Utilities	36	3
Telecommunications	173	17
Distribution	7	1
Banking/Finance	325	32
Insurance	23	2
Healthcare	8	1
Local Government	4	<1
National Government	53	5
Business services	45	4
Other	108	10
TOTAL Europe	**1,029**	**100**

Source: Steria/INPUT

Exhibit D

**1992 MARKET ANALYSIS BY SERVICE MODE (STERIA
CLASSIFICATION) (FF MILLIONS)**

SERVICE MODE	REVENUE	PERCENT
Consultancy	93	9
Products	176	16
Systems Integration	434	41
Technical Assistance	331	31
Other	37	3
TOTAL	**1,071**	**100**

Source: Steria/INPUT

                   December 1993

Exhibit E provides an estimated breakdown of Steria's 1992 revenues by INPUT delivery mode.

Exhibit E

Estimated Revenues by Delivery Mode, Software and Services,
Europe
Steria, 1992

DELIVERY MODE	REVENUE (FF MILLIONS)	SHARE (%)
Application Software Products	173	17
Professional Services	321	31
Systems Integration	450	44
Systems Operations	85	8
Total European Revenues	**1,029**	**100**

Source: INPUT estimates

Organisation   Steria is a group, which at the end of 1992 comprised 23 fully
                    consolidated companies, with 8 affiliates. These are listed in Exhibit F
                    below:

Exhibit F

French Companies	% ownership
CETA	100
STEPAR	100
STERIA BOURSE	100
I.A.I.	55
JADE INFORMATIQUE	100
REBUS COMMUNICATIONS	100
RESO PRODUCTIQUE	100
LAN PARTNER GROUPE STERIA	100
STERIA EXPLOITATION	100
STERIA NICE	100
SYSINTER	100
STERIA SBS	76
SBS BRETAGNE	76
RAYON VERT CONSEIL	25
SFGL	21
SOPARCO	27
B.S.G.L.	51
ISTHME	51
SCOD	30

Non-French Companies	% ownership
STERIA INFORMATIC (Switzerland)	100
STERIA SOLINSA (Spain)	100
STERIA SA NV (Belgium)	100
SOBERI (Belgium)	100
STERIA GmbH (Germany)	100
STERIA SOFTWARE PARTNER (Germany)	100
DAVEG (Germany)	100
CORT GmbH (Germany)	100
STERIA CANADA INC. (Canada)	100
S.N. CIERIA (Ivory Coast)	35
STERIA AL KHALEEJ (Saudi Arabia)	49

The structure of the group is as illustrated in Exhibit G.

                December 1993

Exhibit G

FRANCE

| *Divisions* | *Subsidiaries* | *Joint Subsidiaries* |

INTERNATIONAL

Steria Banques

Steria Administration & Tertiaire

I.A.I.

UNIX System Laboratories S.A.

BSGL

B2S
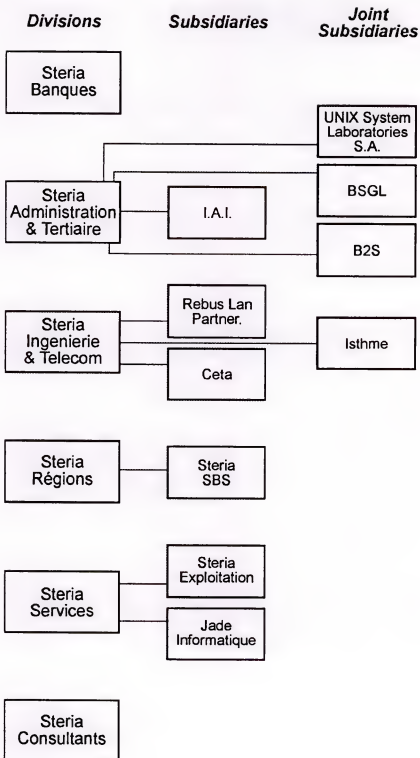
Steria Informatic SA/AG
Geneva/Zürich

Steria al Khaleej
Riyadh

Steria Ingenierie & Telecom

Rebus Lan Partner.

Ceta

Isthme

Steria Régions

Steria SBS

EUROPE

Steria SA/NV
Brussels

Steria Services

Steria Exploitation

Jade Informatique

Steria Solinsa SA
Barcelona/Valencia

Steria Software Partner GmbH
Darmstadt/Frankfurt

Steria Consultants

Footnote: In September 1993 Steria also acquired 100% of DIGILOG.

Steria is now understood to be majority owned by its founders and
employees, with the Credit Lyonnais bank holding the remainder of the
stock, as shown in Exhibit H below:

Exhibit H

SHAREHOLDERS	
NAME	PERCENT OWNED
Founders/employees	56.2%
Credit Lyonnais	43.8%

Exhibit I

KEY EXECUTIVES	
NAME	POSITION
Jean Carteron	Honorary Chairman
Michel Gautier	Chairman (also Divisional Head, International Activities)
Éric Hayat	Vice-Chairman
Claude Lacour	Administration & Finance Director
Jean-Marie Triplet	Quality Assurance Director
Thierry Dumont	Marketing Director
Patrick Bonnard	Human Resources Director
Andrée Kintzinger	Communications Director
Yves Rouilly	Corporate Strategy Director
Jean-Claude Chantreau	Director, Social Benefits Programmes
Vladimir Djourachkovitch	Divisional Head, Banking & Finance
Philippe Tournaud	Divisional Head, Government & Service Industries
Gérard Guyodo	Divisional Head, Engineering & Telecommunications
Patrice Mattei	Divisional Head, Client Services
Jean-Claude Narconti	Divisional Head, Regions and Assistant to Chairman

At the end of 1992 Steria had 2,150 employees, although this had risen
to 2,350 by mid-1993. All but 50 of these are European-based staff.
Around 90% of employees are based in France.

Recent Acquisitions/ Alliances

1992 and 1993 have seen major moves by Steria to increase its
geographic and technological coverage, through both alliances and
acquisition.

During 1992 Steria acquired LAN PARTNER, specialist in local area
networks and SBS, specialists in marine technology.

In March 1992 Steria and UNIX System Laboratories (USL) jointly founded UNIX System Technologies, subsequently known as USL S.A., to specialise in the development of open UNIX systems. USL owns 51% of this venture and Steria 49%.

Steria has a Europe-wide agreement with Tandem to market Steria's UNIX-based STELINK banking communication system.

Isthme is a joint venture company, 51%-owned by Steria and 49% by IBM, and operating in the field of "telematics and corporate communications".

Steria has two joint ventures with Bull: BSGL (49% Bull; 51% Steria) specialises in CASE consulting; B2S (51% Bull; 24½% Steria and 24½% Sligos) operates in the field of software maintenance.

In September 1993 Steria announced an agreement with Apic Systèmes, based around the lather's object-oriented geographic information system (GIS) APIC and aimed at enhancing Steria's systems integration capabilities

In the same month Steria announced a similar agreement with COGNI-CASE Inc. of Canada and its generic re-engineering platform of the same name.

Also in September Steria SBS and Thomson/CSF formed a partnership agreement to develop a mobile robot, VERI 2B, to be used in nuclear environments. The project has been commissioned by INTRA, a consortium of EDF, CEA and COGEMA.

September 1993 saw also the 100% acquisition of systems integrator DIGILOG, active primarily in the defence and transportation markets. DIGILOG operates from Aix in the south of France, employs 120 staff and has a turnover of FF 85 million. This further strengthens Steria in two of its key vertical market sectors.

Major Recent Projects

Major projects undertaken in recent years include the following:

Banking & Finance

- SWIFT version of the STACHEM messaging system selected by Crédit Lyonnais for inter-bank communications.

- The French Bank Card network, a Steria systems integration project, was officially inaugurated in April 1992, the first French nation-wide card service network, processing over 1.5 million transactions daily.

- Development of a multi-network communication system across 10 sites for BFCE (la Banque Francais du Commerce Extérieur), based around STACHEM.

Government & Service Industries

- Development of a national authorisation control system for the French Post Office, to enable local post offices to access centralised postal banking services, running via Minitel videotex units.

- Commissioned by Radio France to maintain local radio station management application software.

- Steria Exploitation commissioned by TFI television station to manage its computerised news programme broadcasting and design system.

- Provided consulting to the French Parliament on the security of its information processing system.

Industry & Power Production

- Computerised stock control system produced for the CEGF Cold Storage & Transport Company.

- In the automotive market, developed a gas analyser control system for Peugeot for use in engine tuning, and a new vehicle delivery and shipping information processing system for Renault.

- Steria's activities in the power industry have increased in recent years, including multiple projects for prime customer EDF, the French electricity company. 20 such projects were announced in 1992, examples of which include: the development of a CAD process applied to the control of nuclear power plant equipment; the re-vamping of the electricity distribution system to include computerised regional routing centres; and the development of a training simulator.

Defence and Aerospace

- Consortium of ADV Technologies, MSII and Steria named by the French Ministry of Defence to develop the military communications and information processing CASE workbench STACOM.

- Provided consulting to the Organisation and Methods Bureau of the French Army on the computerisation of troop administration.

- Steria's CARIATIDES CASE workbench selected for installation on all French Naval Shipbuilding sites.

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- Commissioned by the French Naval Shipbuilding Division to study the rôle of the human factor and the man-machine interface in military systems of the future to act as an early stage in the development of an inter-armed services anti-air attack system.

- Development by Steria SBS (in conjunction with Intertechnique) of software for the remote-monitoring control centre of the French Navy's new research and test vessel, the *"Monge"*.

- Collaboration with the French military's Electronics Division to define user services for the future MMHS88 inter-armed forces messaging system.

- At the end of 1992 the existing Steria-Eurocopter France partnership agreement for the development of helicopter onboard combat software was renewed for a three-year period.

- In October 1993 Steria announced its membership (as Deputy project Manager) of the FALCON European consortium of 12 companies appointed by the Western European Union to set up a new satellite image-interpretation centre for NATO in Torrejon, Spain, a 777 million peseta project. Steria is responsible for configuration control, test strategy and training co-ordination, as well as for the French version of the man-machine interface.

Transportation

- Implementation of the St-Denis and Champigny control centres as part of the SIRIUS Paris Region motorway traffic control system.

- Development for the Swiss government of a traffic control system for the Geneva by-pass motorway.

- Early in 1993 awarded a contract for the development of the Swiss rail traffic control system, in the face of strong international competition, by pooling the resources of Steria's French, German and Swiss divisions.

- Participation in two transportation telematics projects within the EEC DRIVE-2 programme; the development of a multimedia urban working condition analysis system; and a scale model expert road traffic control system.

Telecommunications

- Steria's MailPac 400 software was chosen by France Télécom for use on the Atlas public message handling system servers. Steria is also developing a PC access service to the Transpac videotex system.

- A home and office videotex information service was implemented for the Paris Public Transportation Authority, providing the general public with bus, metro and rapid transit system timetables and information about current travel conditions and route planning.

- REBUS LAN PARTNER, Steria networking subsidiary, has developed a news despatch system in collaboration with Matra Marconi Space for France's AFP Press Agency. Also the control and management for the French Radiophone Company of two public radiophone networks (NMT analogue and GSM digital), including 7 regional centres, a national control centre and servicing 2 million users.

Key Products and Services

Steria's approach to the software and services industry is based on four fundamental concepts:

- From drawing board to implementation, possessing the know-how required to develop large scale software projects, application packages and software engineering workbenches.

- Building lasting professional relationships and dynamic partnerships based on a thorough knowledge of each customer's profession, multi-disciplinary work teams and the sharing of technology.

- Constantly evolving expertise, incorporating the most recent technological advances.

- Diversity of activity, ie. having and using a wide range of complementary skills: consultancy, technical assistance, system development, training, implementation, development, and marketing of software packages, and the management of customer computer facilities.

Key products in each of the market areas served by Steria include:

Banking & Finance

Steria describes itself a *"leader in the field of banking software packages and customer development"*. It aims to provide *"open-ended information systems integrating cost-effective, off-the-shelf software"*. In other words, what Steria provides is essentially a consulting and systems integration capability based around the customisation and integration of key software packages in its portfolio. These include:

- STELINK - a UNIX-based banking communication system running, developed in 1992 and marketed in conjunction with Tandem.

- STACHEM - an inter-bank messaging system, with over 100 installations. STACHEM 2 was announced in September 1993 and provides integration with SWIFT network services (USE and IFT), national message clearing, and fax receipt/transmission.

- STEGAB - an information retrieval centre server used by more than one in three automatic teller machines (ATMs) and card dispensers. A new retailer payment service was added in 1992.

- STEVIB - a range of multimedia software which provides videotex, audiotext and secure file transfer applications in the home banking field.

- STAGGE - a global commitment management package for risk management.

- STECHELLES - a bank administration and account management system marketed by Steria.

- IBSnet - an international microcomputer letter of credit software package.

- SYBU - integrated banking systems.

- TIGRE - a UNIX-based transferable securities system

- AUREUS - a package for the management of share registration.

- Other financial packages include NOSTRO, RUFUS and STELEX.

Government & Service Industries

For these markets Steria designs and develops custom solutions which range from organisational consulting to application maintenance, systems integration and technical assistance. Two major areas of proven expertise are computer-assisted software engineering and the application of UNIX technology.

Products include CARIATIDES, an integrated CASE workbench, for the automation of production of application software for use on IBM and Bull hardware as well as in the UNIX environment. With over 200 sites by mid 1993 it is a comprehensive package which caters for all stages of development and maintenance. CARIATIDES-NSDK is a client/server version. In 1993 a design facility has been added, as well as a version for Windows. Also in 1993 the product was merged with ISD, a complementary process modelling package.

Three of Steria's joint venture companies are particularly active in these market sectors. BGSL, the Steria-Bull joint venture company, has

tackled many large-scale computerisation projects for major
corporations and government agencies, using the CASE methodology.
USL S.A., the Steria-USL venture, specialises in open UNIX systems
and B2S (Bull-Steria-Sligos) provides long term application
maintenance.

Industry & Power Production

The main offering to these markets is again Steria's systems integration
capabilities, with special emphasis on managerial and production
aspects of business and the interlinking of technical and corporate
information systems..

Steria has particular expertise in industrial control systems and logistics
and offers products in the following areas:

- testing
- quality control
- process control
- computer-assisted manufacturing
- maintenance
- component manipulation
- inventory control

Defence and Aerospace

Steria has technical teams located both in Paris and near the major
French space and defence research and development centres in order to
provide local support to this important market. Space technology
activities are centred in the southern Toulouse region, with additional
operations in Sophia-Antipolis, Paris, Darmstadt, Madrid and Brussels,
in order to provide a pan-European scope.

Key relevant Steria competences, in addition to the general large-scale
systems integration capabilities, are:

- real-time data processing
- simulation and scientific computing techniques
- CASE
- artificial intelligence
- networking and communications
- security
- logistics

STACOM is an information and communications system application
support tool, built into the ENTERPRISE II CASE workbench,
developed by Steria.

Transportation

Steria is a recognised major player in Europe in the field of traffic control and passenger information systems for air, road, rail and sea. Toll management was added to the portfolio in 1992. Other applications include automated luggage handling, safety/reliability and air traffic control systems.

Telecommunications

Steria offers networking and corporate communications expertise, both the public/private institutions and to network builders. It offers a comprehensive range of products, including messaging, electronic data interchange (EDI), electronic mail (EMail), directories and file transfer.

MailPac 400, the key product, is an X400 messaging system running on HP9000 and IBM RS 6000 hardware (under UNIX). This product is positioned as an intra-corporation backbone network and will integrate heterogeneous local message-handling networks.

REBUS LAN Partner, a Steria subsidiary, specialises in local area networking and network integration and is involved in many of Steria's major projects where communications/networking expertise is required.

Consulting

Steria Consultants is a subsidiary devoted to consulting activity. It specialises in three types of consultancy:

- information processing methodology
- organisation
- automation

The subsidiary is often involved in the overseeing of systems integration projects and offers project monitoring/quality assurance as well as technology know-how on: network architecture; distributed telecommunications; office automation; electronic documentation; EDI.

OPTINET is a network sizing tool developed in conjunction with the Paris School for Telecommunications Engineers.

Customer Services

Facilities Management is a a key offering in this area and had developed as what Steria describes as a natural follow-on from the development and installation of complex applications. Subsidiary Steria Exploitation operates IBM and Bull mainframe computer centres, as well as managing client/server systems. It also provides technical auditing of network systems and performance testing services.

The Jade Informatique subsidiary specialises in Bull environments and offers a range of hardware consultancy and development services.

Training services are offered by the I.A.I. subsidiary and these cover office automation, microcomputing, methods and theory, documentation management, local area networks and UNIX. Training consultancy is also provided.

Company Strategies

(a)   **Company Direction**

Steria attributes its reasonably stable financial position to having foreseen the direction the industry would take, ie. a move towards increased use and sophistication of packaged solutions, a growing importance of software engineering and quality.

However, it has continued to expand the company, both through acquisition and alliance. Steria admits that it is primarily these ventures, affected by the economic climate, which have depressed its overall growth rate and profitability. (Steria S.A. the parent, representing two-thirds of Group activity, made a small profit, but the group as whole suffered a small loss.)

In the prevailing climate Steria's policy in respect of its subsidiaries continues to be one of integration (to increase synergy benefits, exert management control and rationalise costs) and it is also attacking its group structure costs. It emphasises that it is doing this in a *positive* manner, reinforcing human resources, increasing internal co-operation and intensifying sales efforts.

Steria sees itself in two broad rôles: as a European systems integration prime contractor and as a developer. It believes its strengths lie in the following:

- healthy (if somewhat reduced) profits and above-average growth;
- the determination to expand throughout Europe and the rest of the world;
- a quality assurance policy which guarantees excellence and professionalism;
- a dynamic human resources strategy and the added motivation of employees who are also shareholders;
- a corporate personality characterised by a taste for challenge, openness, a sense of service, flexibility, and team spirit;

and that these manifest themselves in an ability to stay in touch with customers' changing needs, based on:

- information processing competency plus familiarity with client professions in the major vertical markets served;

- a commitment to finding the ideal solution to each individual project, leading to satisfaction, performance, ease of maintenance and open-endedness;
- understanding and application of the latest technological developments (CASE, telecommunications, AI) in order to keep abreast or in advance of customer demand.

(b) Conclusions

Steria is one of many traditionally national players with a strong home market base and reputation with pan-European (or even global) ambitions.

Its strengths in key French sectors such as Finance, Government and Defence, Transportation are undisputed and it has attained a strong reputation as a systems integrator to these markets, based on a portfolio of core products and skills.

Its "internationalisation" to date has been primarily via its key market sectors, for example in transportation, where the experience of developing French systems has led to similar project work in neighbouring European countries.

Involvement in EEC projects such as Esprit and Drive-2, as well as membership of various European consortia on major international projects, and joint national defence projects have provided another route.

Subsidiaries exist in Germany, Belgium, Spain and Switzerland, although these are relatively small operations - 90% of Steria Group staff are based in France. There is no direct coverage of the UK or Italy, two prime European markets.

Steria's challenge must be to consolidate its acquisitions to date and restore profitability levels before it can contemplate any significant further expansion. In the meantime it remains vulnerable to take-over by one of the larger international players with pan-European ambitions. Its employee majority shareholders, however, have the capability to block any such unwelcome attempts (as, indeed, the French government has been known to have done on occasion, especially, perhaps where the subject is heavily involved in defence-related activities).

COMPANY PROFILE

SYNTEGRA
Guidion House
Harvest Crescent
Ancells Park
Fleet
Hampshire GUI3 8UZ
United Kingdom
Tel: 44 252 777 000
Fax: 44 252 777 111

Formerly BT Customer Systems

Managing Director: Bill Halbert
Status: A division of Business
Communications within British
Telecommunications Plc (BT)
Number of Employees: 500
Revenue: (FYE 31-3-93):
BT £13.24 billion

The Business

Syntegra, with 1992 revenues of about £200m (£134m non-captive
in Europe), is among the largest UK-owned suppliers of
computing services. The business was formed from a number of
BT profit centres in 1990, and is particularly active in the systems
integration market. It adopted its new name in November 1993
and with it a strapline: "The systems integration business of BT".

Its aims are:

· to act as prime contractor for large, complex, communications-
  intense projects,

· to develop into a truly international business and,

· within five years, to become one of the leading systems
  integration vendors in its chosen global markets, namely:

  - Retail Finance and Insurance
  - Wholesale Finance
  - Transportation
  - Manufacturing
  - Retail, Leisure and Media
  - Civil Government
  - Defence
  - Utilities

Syntegra views coordination between elements of the "extended
enterprise" as a major opportunity.

| **Financial Information** | Syntegra does not publish separate accounts. Exhibit A shows a four-year financial summary for the BT Group. |

Exhibit A

British Telecommunications PLC
Four-year Financial Summary (FYE 31/3)
(£ M)

	1989/90	1990/1	1991/2	1992/3
Revenue	12,315	13,154	13,337	13,242
Annual Growth Rate %	11	7	1	(1)
Profit before tax	2,302	3,075	3,073	1,972
Annual Growth Rate %	(5)	34	0	(36)
Profit after tax	1,535	2,080	2,074	1,248
Annual Growth Rate %	(3)	(35)	0	(40)
Earnings per share	25.0	34.0	33.2	19.8
Annual Growth Rate %	3.5	36	(2)	(40)

Source: British Telecom

| **Market Analysis** | INPUT estimates that Syntegra's revenue from noncaptive business in 1992 was £130 million. Business from within BT was worth approximately £70 million in 1992. |

Exhibits B and C show a breakdown of this revenue by delivery mode and by industry sector.

Exhibit B

Syntegra
1992 Market Analysis by INPUT Delivery Mode
European Software and Services (FYE 31/3)
(£ M)

DELIVERY MODE	92/93 REVENUES	SHARE (%)
Professional Services	40	30
Network Services	22	16
Systems Integration	60	45
Systems Operation	12	9
TOTAL	**134**	**100**

Source: Syntegra

                   November 1993

Exhibit C

Syntegra
1992 Market Analysis by Industry Sector
European Software and Services (FYE 31/3)
(£ M)

INDUSTRY SECTOR	92/93 REVENUES	SHARE (%)
Transportation	12	9
Banking and Financing	10	7
National Government	55	41
Other Sectors	57	43
TOTAL	**134**	**100**

Source: Syntegra

Organisational Structure

Syntegra has two industry focused groups:

• Commercial and Financial Services Group
• Government and Utilities Group

These are organised in subunits based on Syntegra's target markets.

Each sector selling organisation contains specialists with detailed segment knowledge. It also draws on a central production group (of 1,000 people) to deliver systems integration contracts.

Large and complex projects are the responsibility of Major Projects/Consultancy.

Supporting the above organisation are the following:

• Organisation Resources and Resourcing - implements the changed culture within Syntegra and for scheduling production resources.

• Financial - investment risk and financial contracts management.

• Quality and Systems - quality management (Syntegra is fully TICKIT accredited for all functions).

• Marketing - strategic planning, marketing support and management of third party relationships.

Acquisition History   Syntegra has only made two acquisitions:

- June 1991, the market data systems company FTT from
  Alphameric for £1.85m.
- April 1992, the secure systems specialist SISL Information Systems
  from EDS.

**Major
Recent Projects**

Recent projects carried out by Syntegra include:

- New air cargo system (CCS-UK) for the U.K. cargo community.
  Users can interface electronically with multiple cargo carriers from a
  single, intelligent terminal, to establish cargo space availability,
  book space and track shipments. The new system will be linked to
  the CHIEF System, also being developed by Syntegra for HM
  Customs and Excise.

Exhibit D provides other examples of work undertaken.

Exhibit D

Typical Projects, Syntegra

Client	Nature of Project
ICI	Global Communications Infrastructure
BP	Emergency Control Centre
Department of Social Security	Strategy Terminal Systems programme
European Broadcasting Union	Transmission Planning System
London International Financial Futures Exchange (LIFFE)	Trading Support System
BZW	Equities Settlement
Lloyds Bank Insurance Services	Customer Contact System

Key Products and Services	**Applications/Technologies**

Syntegra targets communications intensive applications, particularly systems which:

- improve interfaces between enterprises; their customers and partners; for example:

  - Voice response systems
  - EDI
  - Telemarketing

- support new organisational structures or cultures; for example:

  - Teleworking systems
  - Corporate messaging/office automation systems

- assist enterprises in delivering new products and services to their customers; for example

  - Document image processing
  - Home banking systems
  - Retailing systems

Syntegra has expertise in two key business process re-engineering technologies: telemarketing and image processing. In these areas, it has developed relationships with a number of suppliers to gain access to a range of products, and is not tied to any one platform.

Consultancy

Syntegra claims that continued investment in consulting skills over recent years enables it to handle many of the management issues related to corporate change. Specifically, it employs a large number of consultants with experience in the key market sectors with in depth knowledge of the marketplace and the issues within it.

Products

- In the banking sector, Syntegra has two product lines:

  - Integrated Trading Systems (ITS)
  - Open Trading Systems (OTS)

ITS encompasses switches and dealer boards, while OTS provides distribution of data in video or digital form.

- In the transportation sector, CCS-UK is an advanced cargo processing system for use by airlines, freight forwarders and customs authorities.

Business Direction

The following defines Syntegra's view of the market and its ambitions within it:

More and more systems will become distributed, reflecting the trend of organisations to similarly become more distributed The critical success factor will be integrated solutions. The boundaries between computer and communications will increasingly blur with a significant shift towards customer facing systems, where a fast effective communications infrastructure with intelligent embedded control capability will become the norm.

Syntegra sees the market for distributed systems integration as offering particular growth potential. It estimates compound growth over the next five years to be 35% per annum.

Customers for distributed systems integration services are large international and major national enterprises who need to solve complex business problems using integrated information and communications systems from multiple vendors. Banks and the financial community, transport and distribution businesses, global manufacturers and international business service companies are all candidates for the sophisticated highly skilled services that vendors specialising in distributed systems integration need to offer.

A further category of customer is defined by Syntegra as "communities of interest." These are usually different companies linked in a single supply chain creating what is sometimes referred to as the "virtual enterprise."

The commercial opportunity is no longer limited to delivering a piece of technology. More and more it is to do with sharing risk and reward. Customers are now looking for partners who will work with them not only to supply the system but also to deliver continuing commercial benefits.

                   November 1993

This might mean developing a global technology system, working with the client company to manage its introduction—with all the internal cultural impacts it may have—then managing the computing and telecommunications services that underlie the continuing success of the system, sharing risks and rewards.

Syntegra sees itself among the best placed suppliers to gain a substantial share of the developing market. With revenues currently at £200m, it plans to grow ahead of the market to achieve a substantial increase within five years.

Competition

Syntegra sees its competition in the following categories:

Traditional **computer vendors** who need to move into services to compensate for low profit margins on hardware. These are seen as having good geographic coverage and access to technology. However, they may not have the complete range of skills needed, and in particular they do not have well established access to communication services necessary to provide ongoing post-installation service and partnership.

Systems companies bring their knowledge of enabling technologies and management issues, but most have limited geographic coverage. Their background is in the development of large centralised systems rather than in distributed computing architectures and services that are crucial in the fastest growing sector of the SI market.

The professional **services companies** are generally nationally based partnerships. They have the expertise in soft management issues and a reputation for independence. Most, however, lack the necessary large-scale project management experience and the financial structure to support prime contracting.

Lastly, the **telecommunications companies** have the benefit of financial scale and enabling technologies. However, with few exceptions, they lack international coverage and the consultancy skills around cultural and management issues.

INPUT Assessment

Overall Syntegra should be favoured by the increasing adoption of client/server architectures necessitating a greater communication emphasis, and by its own increasing emphasis on business solutions that provide competitive advantage to its user organisations.

So far Syntegra's profile in the systems integration market has been low. This is now presumably about to change along with the new name.

It will also try to change its skill set, from system development to business process re-engineering and change management. Syntegra perceives that these skills are now vital to ensure that its clients get "real value" from new IS systems.

As the skill mix begins to change so Syntegra may in the future begin to subcontract "low-skill" activities such as programming, allowing the business to concentrate more of its resources on delivering improved business processes to its clients.

Geographic Coverage

BT already has locations worldwide and Syntegra will increasingly deploy its own personnel within this infrastructure. However, the business will also need to speed up this process by means of acquisitions should suitable companies become available.

Partnerships

While Syntegra intends to develop its own skills in business process re-engineering and change management, it may need to use partners to supplement its own skills in these areas in the short term.

Syntegra will need partners to develop its global coverage and obtain access to advanced technology.

Strengths and Weaknesses

Syntegra main strengths can be summarised as:

- Access to financial resources
- Network integration expertise
- Customer base in U.K. public sector

Its financial stability minimises the financial risk for its customers and gives the business the credibility needed to win major SI projects.

Syntegra has strong network integration expertise and through BT has access to a vast pool of technical skills. BT claims to have the largest R&D capability in the U.K., with specialist skills in software development, the latest technologies in voice and data communications and networking.

The customer base provides strong references, especially in the U.K. public sector.

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The main challenge facing Syntegra is the one it has set for itself. Its ambition is to expand its activities both vertically and geographically at an enormous rate. It is still mainly active in the U.K. public sector (33% of revenues) and in the telecommunications sector largely for its parent BT (33% of revenues).

It has a strong hand to play. But it will have to start taking many more risks if it is to achieve its self-imposed aims.

Syntegra stresses the importance of investment in the large systems integration projects in which it is involved. Backing by BT allows it to compete for large capital intensive projects where the trend is for the customer to demand a fixed price.

Syntegra now employs formal risk management techniques both in initial price determination and in the management of the project.

TÉLÉSYSTÈMES

55 avenue des Champs Pierreux
92029 Nanterre
CEDEX
France
Tel: 33 1 46 14 50 00
Fax: 33 1 46 14 50 11

CEO: G. Leblon
Status: FTLIS subsidiary
Number of Employees: 2,460
Revenue (FYE 31-12-92): FF 1.75 billion

The Company

Télésystèmes was founded in 1969 and is one of the leading computer services and engineering companies in France. It is one of a number of FTLIS subsidiaries, which is in turn owned by France Télécom, as shown in Exhibit A.

Exhibit A

F.T. Subsidiaries Organisation
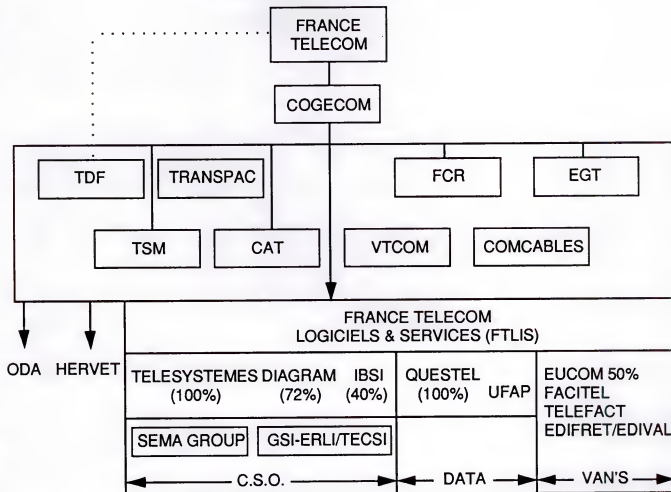
Besides Télésystèmes, the other major subsidiaries within FTLIS are:

• DIAGRAM - which targets the banking and finance sector

• IBSI - which supplies contract staff, mainly outside Paris

• Questel - which provides access to databases supplying information on
  - patents and trademarks
  - business information
  - science and technology
  - legal issues

• UFAP - which publishes trade directories.

In addition, France Télécom holds stakes in a number of computer
services organisations (CSO). The most notable of these are the
company's joint ventures with GSI and the company's 19% shareholding
in the Sema Group.

Télésystèmes earned 1992 revenues of FF1.75 billion and employs 2,460
staff. The company has seven subsidiaries namely:

• TS/CITCOM- staff contracting and training services

• Symedia - which offers application solutions to television and radio
  stations, and publishing companies. The company has a strong multi-
  media capability

• SEDIT - which offers application solutions and services to the local
  government sector

• SETIB - which offers cheque processing, smart card capability, and
  Electronic Fund Transfer services

• IOP - the German subsidiary, which offers application solutions and
  outsourcing services to the industry

• E3X - which offers E-mail and EDI products

• FACICOM - which offers touch-screen public information terminals.

Organisational Structure and Acquisitions

In 1992, Télésystèmes reorganised to increase its emphasis on two key areas of business, namely outsourcing services and systems integration. The new organisation structure is shown in Exhibit B.

Exhibit B

Télésystèmes' Organisation Structure

G. Leblon

CEO

M.C. Lambert

- Finances
- Control
- Accounting
- Internal IT
- International

- Marketing   M. Lacroix

F. Négrerie

- Legal
- Human Resources
- Administration

C. Chalumeau

Corporate Relations

S. Lipiec

Quality

A. Harmand
H.J. Röhl

A. Flamant

Facilities Management Services

└ SETIB

C. Welsch

Engineering System Integration

└ SEDIT
  FACICOM
  E3X

M. Mesle

Symedia

P. Morlière

Citcom

IOP
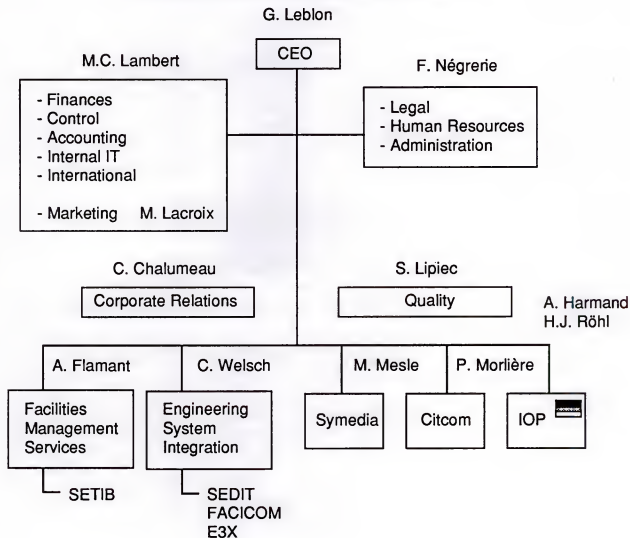
In 1991 Télésystèmes acquired SEDIT, and in 1992, E3X and FACICOM.

**Financial
Information**

The decrease in revenues for 1991 shown in Exhibit C is attributed to a
re-organisation of FTLIS with a number of subsidiaries previously
consolidated under Télésystèmes now becoming autonomous.

Exhibit C

Five-Year Financial Summary (FYE 31-12) (FF Millions)

Year	1988	1989	1990	1991	1992
Revenues	1,015	1,418	1,870	1,700	1,750
Annual Growth Rate (%)	3.4	40	31	(8)	2
Profit before Taxes	17.05	(31.56)	NA	NA	NA
Profit after Taxes	12.6	(35.3)	NA	NA	NA

**Market
Analysis**

The breakdown of Télésystèmes revenues by industry sector is shown in
Exhibit D.

Exhibit D

1992 Market Analysis by Industry Sector (FF Millions)

Industry Sector	Revenue	Percent
Telecommunications	790	45
Banking and Finance	90	5
Government	120	7
Industry	400	23
Distribution and Services	350	20
Total	**1,750**	**100**

Source: Télésystèmes

 May 1993

Exhibit E shows Télésystèmes' revenues by service category and Exhibit F provides estimates by delivery mode.

Exhibit E

1992 Télésystèmes' Revenues by Service Category

Service Category	Revenues	Percent
Processing Services and VANs	330	19
Systems Integration	610	35
Facilities Management	460	26
Professional Services	350	20
Total	**1,750**	**100**

Source: Télésystèmes

Exhibit F

1992 Télésystèmes' Revenues by Delivery Mode

Delivery Mode	Revenues* (FFm)	Percent
Processing Services	175	10
Systems Operations	460	26
Network Services	155	9
Professional Services	350	20
Systems Integration and Turnkey Systems	610	35
Total	**1,750**	**100**

*INPUT estimate

Recent Major Projects Examples of recent major projects carried out by Télésystèmes are as follows:

Telecommunications (for France Télécom)

- Alphapage mobile messaging system and implementation of a gateway permitting international use

- Development and installation of CECORE, an international network management centre

Government

- Outsourcing contracts for the ANPE (government job placement agency in France), the Paris port authority, the CNES (National Centre for Space Studies)

- Provision of an electronic funds transfer system for EDF (the French national electricity body)

- FIDGI - a system for central government administration of mortgage taxation

Banking and Finance

- An electronic home-banking system for the Beacque and Beau Bank

- Cheque processing systems for BNP and Paribas

Industry

- Outsourcing contracts with Thomson, the Constructions Industrielles de la Méditerranée ship-builder, and Heidelberg Harris

- E-Mail services for ELF petroleum company

Media Services

- Supply of administrative management and accounting control systems for FR3, RFO, TFl, SFP and TDF television networks

- Computerisation of programming for TV channel 2.

Key Products and Services

Financial Network Services and Processing Services

Télésystèmes is involved in activities related to electronic payments and security systems, such as:

- Electronic funds transfer
- Remote collection
- Remote payment
- Transaction security
- Access control systems
- Smart card systems.

Télésystèmes has recently developed the France Télécom product for E-mail systems.

The company also offers Videotex, E-mail, and EDI services to clients such as Rhone Poulenc, ELF, Electre, and PSA.

Professional Services

Télésystèmes offers a range of services (audits, feasibility studies, consulting, software development, etc.), products for business communication systems and their project management and implementation. Its network products include:

- Communication and switching software packages
- File transfer programs
- Electronic mail interconnection systems
- Business local area networks (LANS products)
- Telematics, office automation communication servers.

The company also offers applications maintenance management services, and extensive systems engineering training services through its Citcom subsidiary.

Systems Operations

Télésystèmes is one of the leading systems operations vendors in France.

The company's clients include:

- France Télécom
- Paris Harbour
- Thomson Group
- CNES
- Heidelberg Harris
- CNIM
- Radio and TV companies.

Systems Integration and Turnkey Systems

Télésystèmes offers business solutions to four principal industry sectors:

- Manufacturing sector
- Local government
- Health sector
- Telecom operators.

For the manufacturing sector, Télésystèmes has software products for accounting, purchasing, and payroll and has recently signed an agreement with IBM to distribute the Triton production management system. In addition, the company has functional expertise in engineering data management.

Télésystèmes' clients in the manufacturing sector include:

- Thomson
- Alcatel
- Forclum
- Aérospatiale.

Télésystèmes is particularly strong in local government where the company's fifty clients include town halls, conventions collectives, chambers of commerce, and a number of regional councils. The company has its own administrative solutions for these sectors, and has functional expertise in geographical information systems.

In the telecommunications sector, Télésystèmes has also developed customised software products for France Télécom's accounting and payroll functions.

Company Strategies

(a) Company Direction

Télésystèmes principal objective is to become a major European software and service vendor by:

- Developing the company's position in the outsourcing and the business solution/systems integration sectors

- Expanding the company's presence outside the French market.

Télésystèmes already has a strong outsourcing capability in France and will seek to develop its presence in Germany and Benelux over the next three years. Now that Sema Group has sold its share of Axone to IBM and France Télécom has purchased a 19% stake in Sema Group, Télésystèmes will develop co-operative agreements with Sema Group for access to this organisation's outsourcing facilities in countries such as the U.K. and Sweden. This will enable both Télésystèmes and Sema Group to offer outsourcing services across a wide range of countries in Europe—a capability which will become increasingly important in the European outsourcing market. Similarly, Télésystèmes will develop co-operative agreements with DIAGRAM to cover the Italian and Spanish outsourcing markets.

To develop Télésystèmes' position in the business solution/systems integration sector, the company will continue to expand its application software product portfolio, for example, by adding to its products for the health sector. The company is also completing the conversion of its own software products, for example its purchasing package Scope Achats DPS7, to UNIX and endeavouring to develop synergies between its French software products and those of its German subsidiary, IOP. The company's systems integration activity is likely to remain concentrated around the manufacturing and public sectors.

(b) Strengths and Weaknesses

Télésystèmes' current strengths are:

- Financial backing of France Télécom
- Its outsourcing capabilities
- Network Services/communications expertise.

The main challenges facing Télésystèmes are to increase its revenues in other country markets outside of France, and to expand its activities outside of the telecommunications sector. At present, the 14% of the company's revenues derived from international operations largely accrue from the activities of its German subsidiary IOP.

(c) Conclusions

The principal areas of development for the company during the next few years will be:

- Outsourcing
- Systems integration
- International operations.

Télésystèmes already offers a broad range of outsourcing services in France. Co-operative agreements with Sema Group are the key to expanding the company's geographical outsourcing capability.

In systems integration, Télésystèmes is developing strong capabilities in the manufacturing and public sectors.

The company can also be expected to expand its application software product portfolio which currently includes:

For the manufacturing sector

- Triton - the production management system for manufacturing organisations

- SCOPE Achats - Télésystèmes' own purchasing system

- SCOPE GESTION - Accounting and Business Management

For local government

- SCOPE Collectivités - business administration for town and regional councils

- Proconsulix for the administration of Chambers of Commerce.

Télésystèmes will focus predominantly on application software products which run under UNIX. All products are currently available under UNIX except Scope Achats which is awaiting conversion from a Bull CGOS environment.

Télésystèmes views partnerships with applications software products vendors as one of the keys to developing its presence in the market.

COMPANY PROFILE

TIETOTEHDAS OY
Kutojantie 10
POB 33
SF-02631 Espoo
Finland
Tel: + 358 0 52161
Fax: + 358 0 526 3091

Chairman: Arvo Tuononen
Managing Director: Matti Lehti
Status: Public
Number of Employees: 1,421
Revenue (FYE 31-12-1992): FIM 738.7
million

The Company

Tietotehdas is an EDP services Group established 25 years ago in 1968 and operating in Finland, Sweden, Norway and Denmark. The company claims to be the largest computer software and services company in Finland and the first computer and software services company quoted on the Helsinki Stock Exchange.

Tietotehdas Oy and its subsidiaries form the Tietotehdas Group. It addresses the banking, insurance, engineering and manufacturing industries in Scandinavia. Tietotehdas specialises in the design, maintenance and operation of information systems. It operates primarily in the professional services, processing services and packaged software areas.

The group is organised in seven divisions:

· Data Centre

· Financial Systems

· Trade and Services

· Engineering and Manufacturing

· Accounting and Finance Systems

· Personnel Systems

· TT-Trading

The group structure is based on a decentralised, profit centre-based organisation where profit centres operating in the same or in a closely related business area are combined to form business divisions.

In 1991, Tietotehdas withdrew from the hardware market and sold its unprofitable micro-computer business.

In 1992 improved results were reported arising from increased market share and lower costs. This was achieved in spite of the difficult conditions and falling demand.

Headcount again declined in 1992 to 1,421 (1,459 in 1991.).

Recent Acquisitions

1992 was a year of consolidation rather than acquisition. Shares in two real-estate companies were sold. The holding in Financial Software Technology Oy was increased. Avonius Oy and Finnish Data Power were merged with the parent company as was Farino Oy, formerly Connectus Oy.

Smartcard Scandinavian and PAS Data are reported as having been "dispensed with." The Danish company Datema A/S was wound up as unprofitable, as was the Swedish Optiim AB.

Exhibit A

EXECUTIVES

NAME	POSITION
Sture Bellmark	Manager, Personnel Systems Div.
Esko Makinen Data Centre Div.	Manager,
Veli Pohjolainen Financial Systems Div.	Manager,
Pentti Huusko	Manager, Trade & Services Div.
Matti Lehti	Manager, Engineering and Manufacturing Div
Svein Kockberg	Manager, TT-Trading
Juhani Lehikoinen	Manager, Accounting & Finance Systems Div

Exhibit B

1991 EMPLOYEE CHART

DIVISION	NUMBER OF EMPLOYEES
Personnel Systems	206
Data Centre	279
Financial Systems	348
Trade & Services	175
Eng'g & Manufacturing	110
TT-Trading	146
Acc'g and Finance	95
Group Functions	62
TOTAL	**1,421**

Exhibit C

SHAREHOLDERS

SHAREHOLDERS	% OWNED	% VOTES
Unitas Bank Ltd Group	6.8	14.8
Kymmene Corporation	4.5	11.9
Nokia Corporation	9.2	9.3
Suomi Mutual Life Assurance	3.4	8.5
Aamulehti Group	4.9	5.8
Kone Corporation	2.3	5.5
Enterprise-Fennia	2.1	5.4
STS-Bank	2.1	5.4
Tapiola Group	2.1	5.4
Tehdaspuu Oy	2.1	5.4
Others	60.5	22.6

At the end of 1992, the number of shareholders was 5,940

Exhibit D

SUBSIDIARIES

NAME	% OWNED	COUNTRY
Avo-Tieto Oy	100	Finland
BaseSoft Team Oy	100	Finland
C and Saa Oy	100	Finland
Datema AB	93.5	Sweden
Financial Software Technology Oy	71.5	Finland
Finnsystems Oy	60	Finland
Ingres Finland Oy	100	Finland
Ingres Norge A/S	100	Norway
Multitema AB	100	Sweden
No Limits Oy	100	Finland
Pecom Oy	100	Finland
Progitur	100	Finland
Tietotehdas Danmark ApS	100	Denmark
Tietotehdas Sweden AB	100	Sweden
Totus Oy	55	Finland
TT-Innovation Oy	100	Finland
TT-Microtrading OY	100	Finland
TT-Software Trading Oy	100	Finland
TT-System Professionals Oy	100	Finland

Key Products and Services

The group is organised in seven divisions:

· Data Centre

· Financial Systems

· Trade and Services

· Engineering and Manufacturing

· Accounting and Finance Systems

· Personnel Systems

· TT-Trading

Data Centre

The Data Centre reported 1992 revenues of FIM 186.4 million and employs 279 staff. If is divided into two profit centres - Data Processing Services, Finnish Data Power Oy and Production.

The Data Centre division develops, markets and performs processing and network services required in the day to day operation of DP systems.

Financial Systems

The Financial Systems division reported 1992 revenues of FIM 148.1 million and employs 348 staff. It is divided into profit centres:-

· Banking Systems

· Securities and Finance Systems

· Insurance Systems

· TOTUS Oy

· Financial Software Technology Oy (FISTEC)

The Financial Systems Division specialises in data systems for banks, insurance companies and other companies and organizations in the finance sector. Among its services are systems development, maintenance and integration services of data systems.

Trade and Services

The Professional Services Division reported 1992 revenues of FIM 75.2 million and employs 175 staff. It operates through profit centres:-

· TT-Innovation Oy

· Systems Integration Services

· Public Administration and Utilities

· Retail and Wholesale

This division delivers professional services to the wholesale and retail trade, public administration and utilities. The services comprise data and management system consulting, design and maintenance of data systems, and a systems integration service which combines IT services.

Engineering and Manufacturing

Created as a separate division on 1st January 1993, this division specialises in the data system needs of engineering and manufacturing industries, using packaged and custom software solutions. It operates two profit centres:- Meritt Man and Meritt Special.

1992 revenues were FIM 41 million and personnel 110.

Accounting and Finance Systems

1992 revenues were FIM 32.5 million and personnel 95. The division supplies data systems to meet the financial management needs of all sizes of company in all sectors. It operates two profit centres:- Meritt Eco and General Systems.

Personnel Systems

The Personnel Systems Division reported 1992 revenues of FIM 130.5 million and employs 206 staff. It operates profit centres:-

- Datema PA AB

- TT-Personnel Systems Oy

- TT-Timecon Oy

- Datema Cards AB

This division supplies payroll and personnel administration systems in the Scandinavian countries.

TT-Trading

TT-Trading reported 1992 revenues of FIM 154.1 million and employs 146 staff. This division operates from seven bases, in the four Scandinavian countries, through profit centres which are:

- Ingres Nordic imports Ingres relational database and application development products to Scandinavian countries

- Ingres Finland Oy

- Ingress Sverige AB

- Ingres Norge AS

- Ingres Danmark A/S

TT-Microtrading Oy specialises in importing and wholesaling of work station systems, data communications products, and add-on hardware to Finland.

TT-Software Trading Oy imports EDP tools and offers product training and training programmes based on Information Technology in Finland:

Aion products

Aster*x products

MDBS products

TT-Training Centre

TT-Training Solutions

TT-Trading BP imports EDP tools and offers product training and consultant to the other Scandinavian countries

Aion Products

Aster* products

TRIP products

Financial Information   Exhibit E

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (FIM MILLIONs)

YEAR	1988	1989	1990	1991	1992
Revenues	1,003.4	849.1	812.7	768.3	738.7
Annual Growth Rate(%)	112%	-15%	-4%	-5%	-4%
Profit/Loss before taxes	NA	33.7	36.5	20.9	26.9
Profit/Loss after Taxes	NA	33.9	17.6	4.0	11.6
Earnings per Share	-61.41	76.63	42.99	25.97	48.82

Market Analysis   Exhibit F

1992 MARKET ANALYSIS BY DIVISION

DIVISION	REVENUE (FIM MILLIONS)	PERCENT
Data Centre	186.4	25.2
Financial Systems	148.4	20.1
Trade & Services	75.2	10.2
Eng'g & Manufacturing	41.0	5.5
Accounting & Finance	32.5	4.4
Personnel Systems	130.5	17.7
TT-Trading	154.1	20.9
Group Functions	0.2	0.0
Internal Net Sales	(29.3)	(4.0)
TOTAL	738.7	100

Note: Numbers are rounded

Note: Internal Sales are included in above revenue breakdown.

Exhibit G

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE SOFTWARE AND SERVICES

DELIVERY MODE	REVENUE (US$ MILLIONS)	PERCENT
Systems Software Products	12	7
Application Software Products	30	18
Turnkey Systems	15	9
Professional Services	24	15
Systems Integration	8	5
Systems Operations	8	5
Network Services	0	0
Processing Services	53	32
Total Software and Services	150	91
Equipment Services	0	0
Total Information Services	150	91
Equipment/Other Revenues	15	9
TOTAL EUROPEAN REVENUES	**165**	**100**

Exhibit H

1992 MARKET ANALYSIS BY INDUSTRY SECTOR, SOFTWARE AND SERVICES

DELIVERY MODE	REVENUE ($ MILLIONS)	PERCENT
Discrete Manufacturing	5	3
Process Manufacturing	2	1
Transportation	3	2
Utilities	7	5
Telecommunications	3	2
Retail Distribution	3	2
Wholesale Distribution	3	2
Banking and Finance	42	28
Insurance	7	5
Health care	3	2
Local Government	3	2
National Government	14	9
Business Services	3	2
Other Industries	4	3
Cross-Industry Sectors:		
Accounting	6	4
Engineering & Scientific	3	2
Human resources	24	16
Office Systems	3	2
Systems Software Products	12	8
TOTAL SOFTWARE AND SERVICES	**150**	**100**

Exhibit I

1992 MARKET ANALYSIS BY COUNTRY, SOFTWARE AND SERVICES

DELIVERY MODE	REVENUE ($ MILLIONS)	PERCENT
Sweden	23	15
Denmark	3	2
Norway	3	2
Finland	121	81
TOTAL INFORMATION SERVICES	**150**	**100**

INPUT estimates non-captive software and service revenues totalled US$150 million in 1992.

Group revenues were FM 738.7 million in 1992 compared with FM 768.3 million the year before. The reduction in revenue was mainly due to reduced demand in a period of severe recession.

Company Strategies

(a) **Company Direction**

The key task of the Tietotehdas Group is to improve the efficiency and results of its customers through the application of information technology. Tietotehdas concentrates on those sectors of EDP services where it can impart the highest professional expertise. In these areas its objectives are to deliver the highest expertise in the market, to command the leading market position in Scandinavia and to achieve good profitability.

1992 for Tietotehdas has been a year of continued streamlining of its operations and restructuring of its business. To secure itself against a recessionary climate and intensifying competitive pressure, the company has decided to focus on its core activities.

The company sees its future in three key areas, personnel systems, data processing systems and banking and financial systems. It has consolidated its operations in these areas and divested itself of a number of businesses and subsidiaries which it felt offered little growth.

The company's strategy for success is to direct resources toward those business operations that are strategic for Tietotehdas and away from those where the opportunities are not sufficient. It recognises the inevitability of full scale international competition in its operating markets and aims to protect market share by accelerating the structural change of the organisation to a specialised international software and services business.

During 1991 Tietotehdas acquired companies responsible for marketing the Ingres products in Denmark and Norway, so that its distribution network now embraces all the Scandinavian countries. Also, important contracts for data processing services were signed with the Share Central Register and Helsinki Stock Exchange, cementing its position in the financial sector.

Tietotehdas has a strong presence in Scandinavia. Through acquisitions and its distributor network, Tietotehdas has expanded its presence outside of its national market. It currently operates through sixteen subsidiaries in Finland, two in Denmark, three in Sweden and two in Norway.

Tietotehdas has a strong vertical orientation, targeting manufacturing, industry and public administration with particular emphasis on the banking and finance sector. The company's financial systems division focuses specifically on this market, offering systems development, systems integration and data processing services.

Tietotehdas is also a leading supplier of IT services for payroll and personnel administration in Scandinavian. Datema Personnel administration AB is responsible for the services in Sweden and IT-Personnel Systems Oy in Finland.

The main challenge facing Tietotehdas will be to replace the lost revenue from its hardware business, which accounted for almost one-fifth of 1990 turnover, with revenue from services.

Conclusions

Tietotehdas reported a drop of 4% in 1992 revenues. The strong reduction in demand for EDP services in Tietotehdas' primary market areas, Finland and Sweden, forced the company to adapt its operations to meet the new situation.

Consolidated profit before taxes reached FM 26.9 million compared with FM 20.9 million during the previous year. The result was mainly due to disposal of the loss-making hardware sales operations. Sales of packaged software for the manufacturing industry were also weaker, whereas the result of the Financial Systems Division, payroll systems and EDP tools improved.

Tietotehdas has entered 1993 as an economically stronger company. While the group now operates in fewer product areas than before, these areas are geographically more extensive. This concentration on core services should continue to improve the margins of the company in 1993.

Groupe UNILOG
97 Bd Preire
75017 Paris
France
Tel: 33 1 40 68 40 00
Fax: 33 1 40 68 40 05

President: Grard Philippot
Status: Public
Number of Employees
(FYE 31-12-92): 1,440
Revenue (FYE 31-12-92): FF 662 million

The Company

UNILOG is a professional services company which specialises in project development/engineering, consultancy/design, application software packages, and technical/training expertise.

It was founded in 1968 by Raymond Leddet, Maurice de Paillette, Grard Phillipot, Bernard Treps and Jacques Wallut. UNILOG has been quoted on Paris' secondary market since January 1988.

UNILOG currently claims 2% of the French market in which it operates. The company has a philosophy of growth but does not see this being achieved through what it describes as hegemony. It has opted instead for a gradual building of a federating Group, made up of alliances between companies equally well-placed in their markets and sharing a similar culture.

Financial Information

Exhibit A

FIVE YEAR FINANCIAL SUMMARY (FYE 31-12) (FF MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	344	449	552	581	662
Annual Growth Rate	25%	30%	23%	5%	14%
Profit before Taxes	33.2	37.4	N/A	46.0	50.8
Profit after Taxes	16.0	15.7	23.3	24.7	22.9
% Net Profit	4.6%	3.5%	4.2%	6.0%	(7.3%)

Market Analysis   Exhibit B

1992 MARKET ANALYSIS BY INDUSTRY SECTOR (FF MILLIONS)

INDUSTRY SECTOR	REVENUE	PERCENT
Insurance/Finance	225.1	34
Retail/Wholesale Distribution	39.7	6
Manufacturing	251.6	38
Services/Admin	145.6	22
total	662	100

Source: UNILOG

Exhibit C

1992 MARKET ANALYSIS BY DELIVERY MODE (FF MILLIONS)

DELIVERY MODE	REVENUE	PERCENT
Software Packages	72.8	11
Consultancy/Design	53.0	8
Systems Engineering	463.4	70
Expertise/Training	72.8	11
Total	662	100

Source: UNILOG

UNILOG's revenues were primarily derived in the French market.

Ownership and Organisation

Exhibit D

Ownership of UNILOG

SHAREHOLDERS	PERCENTAGE SHAREHOLDING
Founders + 13 executives	51
Other directors	37
Public	12

                   December 1993

The group consists of 8 virtually autonomous subsidiaries:

- SA Ingnierie Grands Systmes
  *(combines previous SA UNILOG Banque et Services and
  SA UNILOG Industrie subsidiaries)*

- SA UNILOG Regions
  + subsidiaries SA UNILOG Ouest and SA UNILOG Nord

- SA UNILOG Multi Systmes

- SA UNILOG Pluri Systmes

- SA UNILOG Conseil

- SA UNILOG Action Formation

- SA UNILOG Rseaux et Systmes
  + subsidiary SA HANDILOG *(newly formed in 1992)*

- SA UNILOG Progiciels *(newly formed in 1992)*

Key Products and Services

UNILOG services cover a broad range of professional services and application software products and are divided by UNILOG into the following categories.

Engineering

UNILOG's Engineering division provides 70% of group turnover.

It develops and implements "customised packages", with the philosophy that this retains all the advantages of a packaged software approach but adapts the application to meet the customers individual needs. This activity tends to be carried out in close co-operation with customer and or third party teams, with UNILOG usually taking the rle of prime contractor.

Developing specific software solutions accounts for 41% of business. An increasing proportion (now almost half) of the projects undertaken are on a fixed price basis.

Consultancy & Design

This is a small but growing area of activity and accounts for 8% of revenues.

It operates in conjunction with the group's Engineering and Expertise divisions, but is a separate specialist business unit and is chiefly concerned with projects relating to the development and control of information systems, viz:

- project management and steering
- development plans;
- change management
- merging of information systems

With the creation of joint consultancy UP Consultants (with German group PLOENZKE) UNILOG has extended the range of its services, centred around the "SAP" packages).

In the Design field UNILOG specialises in innovative services in two main areas:

- capitalising on sector skills, particularly through the use of Templates, reusable start-of-the-art data and processing models designed to speed up customer-site development within the constraints of existing architecture;

- application of UNILOG Reference Quality at the early stage of projects, to provide formal design product capability specifications, based on the objectives, risks and constraints of the operation, with the aim of optimising, for example, the choice of software development environment.

Software Packages

Application software accounts for 11% of group revenues.

As part of a solutions-based approach, UNILOG offers a range of international applications packages (catering for customers with international development needs).

UNILOG designs or selects the packages in conjunction with the customer then handles their acquisition/development, implementation, customisation and maintenance.

The range includes:

For **Industry**:

- CIIM   a US industrial management UNIX package designed for the mechanical, electronic, chemical, auto equipment industries;

- Data 3 a US production management package (MRPII/JIT);

- Ediris module associated with Data 3, aimed at flow-based industries and providing communication with or without EDI;

- Phare a French package designed in association with five auto equipment manufacturers for sales and logistics management between manufacturers and suppliers and providing EDI communication in a Galla/Odette environment;

- Phare X UNIX version of Phare in a relational database environment;

- Atelier
Managera German workshop management package.

For **Services:**

ù Infolog GE a French warehouse management package designed for mass retailing;

ù Minos a French sales management package for suppliers to mass retailers.

For **Insurance** companies:

ù Nice a multilingual Norwegian integrated management package for insurance companies involved in fire and accident insurance; includes direct marketing modules.

Expertise (Technical and Training)

Technical and Training Expertise account for 11% of UNILOG revenues.

UNILOG believes that technical architecture, growing ever more complicated, has become a major issue. It has therefore built up a system of methods and an approach which brings together the design skills required:

- networking
- client/server architecture
- communications

- multimedia
- data architecture
- relational/distributed database

A business unit is dedicated to training group customers and employees. Over 80 courses are available, mainly in the fields of open systems and microcomputing.

During 1992 internal and external training represented 15,000 man-days and covered 500 clients.

Company Strategies

(a) Company Direction

The company has a *"philosophy of growth"* but does not see this being achieved through what it describes as *"hegemony"*. It has opted instead for a *"gradual building of a federating Group, made up of alliances between companies equally well-placed in their markets and sharing a similar culture"*.

It sees the first major step in this as the alliance agreed in October 1992 with German software house PLOENZKE, a company which UNILOG perceives to share a similar vision and culture. The basis of the agreement, simply stated, is for each to offer its skills to the markets of the other. The setting up at the beginning of 1993 of UP Consultants, the first joint subsidiary, was the first step along this strategic route.

UNILOG states that there will be more "partners" in an "alliance to weave a solid net covering the whole of Europe". However, the company accepts that this is a long-term vision and one which needs more than just a financial strategy to bring to fruition.

UNILOG sees its "matrix" organisation, which combines technical and professional knowledge/capability as key to fulfilling customer needs.

Areas seen as offering particular potential are:

- applications packages, extension of the range from the industrial/financial field into other areas;

- third party maintenance, this area contributed 14% of total turnover in 1992 and is growing at 25%pa. with a workforce of nearly 200 dedicated engineers;

- information systems merger/migration, an activity currently in demand due to structural changes in customer industries served;

UNILOG recognises the fragmented nature of the software and services market and the inherent problems this causes for the ambitious player. However, it is optimistic, as the following assertion attests:

"It is within our ability to offer a coherent global solution, whatever the skills that solution may require, - that we will build our success"

(b) Conclusions

UNILOG is a successful and established player in the French market but has had little international exposure. It sees the danger of remaining a relatively small player in a fragmented but consolidating European market and wishes to position itself for the future.

It has not made the mistake of many of its European competitors and plunged headlong into acquisition mode. Instead it is seeking to become international gradually, without threatening its strong home base and is doing this primarily through partnerships.

Financially UNILOG appears sound - it has continued to grow and make profits (albeit reduced in 1992) at a time when this has become the exception rather than the rule.

The question remains whether UNILOG can survive at the level at which it operates, ie. that of a successful mid-range national supplier, or whether it will be purchased by a hungrier and less patient predator.
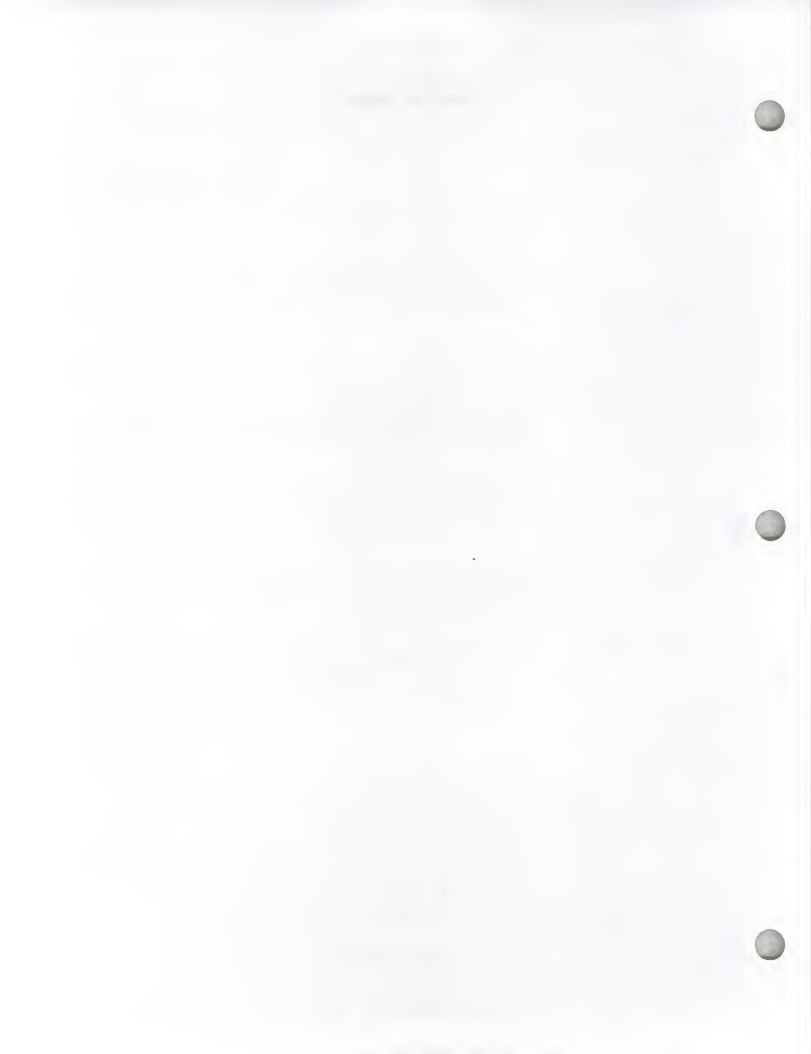
COMPANY PROFILE

UNISYS CORPORATION
PO Box
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Tel: +1 215 986 6999

European HQ
Africa & European Division
Baker's Court
Baker's Road
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Tel: 44 (0) 895 237137
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Chairman & CEO: James Unruh
Status: Public Corporation
Revenues (FYE 12/92): $ 8.4 billion
Employees (FYE 12/92): 50,000

European Revenues (FYE 12/92): $2.5 billion
Employees (FYE 12/92): 54,300

The Company

Unisys Corporation is an important international systems company making and marketing total information solutions based on open systems. It provides services such as systems integration, multi-vendor support, networking and training.

It supports a large base of commercial users, but specialises in offering mission-critical solutions in four strategic market sectors:

· Financial services
· Airlines and Travel
· Telecommunications
· Public Sector

These four market segments currently account for over 70% of the company's commercial computer business which is mainly in high volume transaction processing and complex networking environments.

Unisys operates in some 100 countries. Half its 1992 revenues derived from outside the U.S.A. Africa and (mainly) Europe contribute 29%.

Unisys estimates that the company has 1,500 customers in Europe. Its main European customer groups are government and commercial (c 40% of revenues) and financial (c 30%.)

Its 1992 R&D expenditures exceeded $0.5 billion.

In 1991, Unisys carried out an extensive reorganisation to tighten its market and product offering focus, reduce debt and improve cost structures. Headcount was reduced by 20% in 1991 and 10% in 1992 . Profitability was re-established in 1992.

Financial Analysis   Exhibit A shows an analysis of revenues and profit over the last five years and Exhibit B shows the proportion of service revenues over the last three years.

Exhibit A

Unisys Five Year Financial Summary
(FYE 31-12) ($ Millions)

YEAR	1988	1989	1990	1991	1992
Revenues	9,935	10,097	10,111	8,696	8,422
Annual growth rate	2%	2%	0.1%	(14%)	(3%)
Profit before taxes	959	(554)	(337)	(1,288)	435.6
Profit after taxes	681	(639)	(437)	(1,393)	361.2
Annual growth rate	18%	(194%)	32%	(219%)	126%
Headcount	-	-	75,300	60,300	54,300

Source: Unisys.

Federal government business accounted for some 29% of total revenues in 1992, up on 1991 (26%) and 1990 (24%.) However in absolute terms this revenue stream was steady at around $2.4 billion.

Exhibit B

Unisys Three-Year Analysis (FYE 31-12)
Service Revenues

ACTIVITY	1990	1991	1992
Net Sales	67%	65%	66%
Services	33%	35%	34%
TOTAL	**100%**	**100%**	**100%**

Source: Unisys

       December 1993

Market Analysis

Exhibit C

Unisys Three-year Revenue Distribution by Region
($ Millions)

REGION	1990 SHARE	1991 SHARE	1992 SHARE
United States	49%	49%	49%
Europe	31%	30%	29%
Americas/Pacific	20%	21%	22%
TOTAL	**100%**	**100%**	**100%**

Source Unisys

Exhibit D

Estimated Revenues by Country, Information Services, Europe
Unisys, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	225	17
Germany	170	13
U.K.	215	17
Italy	90	7
Netherlands	98	8
Belgium/Lux'	68	5
Spain	68	5
Switzerland	107	8
Austria	48	4
Sweden	55	4
Denmark	23	2
Norway	13	1
Finland	23	2
Ireland	24	2
Portugal	30	2
Greece	13	1
Eastern Europe	33	3
Total Information Services	1,300	100

Total services revenue, which includes equipment maintenance charges, declined from $3.3 billion to $2.9 billion from 1990 to 1992. However the absolute and relative contribution of services other than maintenance grew. (See Exhibit E below.)

Exhibit E

**Unisys Three year Distribution of Revenues
By Product Class**

PRODUCT CLASS	1990 SHARE	1991 SHARE	1992 SHARE
Enterprise servers & peripherals	29%	23%	23%
Departmental servers & workstations	13%	14%	13%
Software	7%	8%	8%
Services & systems integration	11%	13%	16%
Equipment maintenance	20%	21%	20%
Defence custom products & services	20%	21%	20%
TOTAL	**100%**	**100%**	**100%**

Source Unisys

Services and systems integration was the only area not to shrink.
Revenue increased by 23% from $1.1 billion in 1990 to $1.3 billion
1n 1992.

Exhibit F

**Estimated Revenues by Delivery Mode, Software and Services, Europe
Unisys, 1992**

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	240	10
Application Software Products	45	2
Professional Services	245	10
Systems Integration	50	2
Processing Services	35	1
Total Software and Services	615	25
Equipment Services	685	28
Total Information Services	1,300	53
Equipment/Other Revenues	1,170	47
Total European Revenues	2,470	100

Source: INPUT Estimates

Exhibit G

Estimated Revenues by Industry Sector, Software and Services, Europe Unisys, 1992

SECTOR	REVENUES ($ MILLIONS)	SHARE (%)
Industry Sectors:		
Discrete Manufacturing	15	2
Process Manufacturing	15	2
Transportation	5	1
Utilities	5	1
Retail Distribution	5	1
Wholesale Distribution	20	3
Banking and Finance	110	18
Insurance	20	3
Healthcare	5	1
Local Government	25	4
National Government	55	9
Business Services	30	5
Other Industries	15	2
Cross-Industry Sectors:		
Accounting	25	4
Engineering & Scientific	5	1
Human resources	10	2
Office Systems	20	3
Planning & Analysis	5	1
Systems Software Products	240	39
Total Software and Services	615	100

Source: INPUT Estimates

Organisational Structure

In August 1993 a new organisation consisting of three major business groups was established: Information Services and Systems, Computer Systems, and Government Systems. They report to the CEO. The objectives of the reorganisation were:

- To grow the information services and client/server businesses
- To achieve synergy and focus in government business
- To speed decision -making

Information Services and System Group (ISSG) includes information services, line of business solution units and three geographic sales divisions. It services customers world-wide except the U.S. federal government. It will integrate components - whether services or technology - from within and outside Unisys. ISSG is headed by the CEO of Unisys.

                   December 1993

Computer Systems Group (CSG) is the product of a systems solution company which will supply computer systems, imaging systems, payment systems software products and tools. It is responsible for product marketing, OEM channel sales, development and engineering manufacturing and programme management.

Government Systems Group (GSG) provides Unisys services and solutions to U.S. Federal Government and its "allies". CSG includes the former Paramax Systems division and Unisys Government Systems, Inc. To quote a press statement: "This group will significantly leverage the systems integrations skills of government units in commercial markets". It also provides a single interface for government clients.

Unisys has also established two Integrated Business Units (IBUs). They will operate as profit centres with considerable independence. Within ISSG an IBU will be set up for information services and within CSG an IBU will be set up for client/server. The objective is to provide specialisation for the benefit of clients and to compete with specialist competitors.

ISSG includes Information Services, four line of business solution units, three geographic sales divisions and Commercial Marketing. The units and their directors are listed below.

ISSG Divisions and Presidents

• Information Services - Victor Millar (formerly of Andersen Consulting)
• United States - William Paton
• Europe/Africa - Graham Murphy
• Pacific/Asia/Americas - Ed Blechschmidt
• Financial Line of Business - John Perry
• Public Sector Line of Business - Guillermo Monroe
• Airlines Line of Business - Del Bloss
• Telecommunications Line of Business - Jason Abboud
• Commercial Marketing - Clive Ingham

The Europe Africa Division (EAD) is based in Uxbridge, U.K. It acts as the management centre for the operating companies in the division. It is predominantly a European organisation, with subsidiaries in most European Union (except Greece) and Scandinavian countries, Austria and Switzerland.

Business in Africa, Central and Eastern Europe, and the Mediterranean region including Greece is coordinated by Unisys

World Trade, part of EAD, which also manages all business done by Unisys through distributors.

Acquisitions

1988

January, Timeplex, Inc., a supplier of wide area voice/data/image communications networks, divested in 1991.

December, Convergent for approximately $350 million.

Major Recent Projects

Czech Savings Bank: $90 million contract for retail banking and branch automation system, including consulting, system integration and user training.

The State of Michigan: $60 million contract for client/server and professional services project for integrated welfare eligibility system.

AB Svensk Exportkredit: Implementation of banking solution based on Unisys Global Wholesale Banking system.

Key Products and Services

(a) Technologies

Unisys has positioned itself as an Open Systems solutions vendor. So it is committed to open standards- claiming to have registered more OSI interoperability tests than any other company by the end of 1992. It generally emphasises UNIX and works to provide Online Transaction Processing capabilities on UNIX. Its product line is structured around an architecture - the Integrated Information Environment.

Unisys sees itself as an industry leader in imaging technology with InfoImage IIPS/ICPS. This is claimed to be the first system to be used live for high-volume image processing of cheques.

(b) Industry Knowledge

Unisys has always concentrated on particular industries where highly transaction-intensive information processing is crucial; financial services, airlines and travel, telecommunications and the public sector.

It also has a substantial presence in a number of other industries including manufacturing, distribution and publishing.

In addition, its Paramax Division - now assimilated entirely into GSG - is a leading supplier of complex electronic systems for civil and defence agencies of the U.S. Government and allied foreign government agencies.

Unisys aims to build on its success in these markets and is focusing its resources on developing solutions for them.

Company Strategies

(a) Company Direction

"Our strategy hinges on building partnerships with customers. Through our information services, we will help them apply technology to improve their competitive position and increase their profitability." James Unruh, 1992 Annual Report.

In line with this move further away from the traditional role of the hardware vendor to that of solution provider, Unisys predicts growth in its professional services revenue. In particular it intends to offer extended consultancy services, Open Systems implementation projects, systems integration and outsourcing. In addition it expects to offer solutions packages (eg in bank automation.)

The new organisation structure is designed to reinforce the new direction, as does the trend in the three-year figures for services and systems integration.

(i) Geographic Coverage

Unisys' covers all the major national markets.

(ii) Partnerships

In technology Unisys seek to supplement its own R&D investments by alliances. Currently partnerships are in place with Intel, Motorola, Fujitsu, Chorus and Timeplex.

Other partners include:

- Information Technology, Inc - a leading software provider to the U.S. finance industry.

- KPMG Peat Marwick to provide solutions in the manufacturing arena and to help customers re-engineer business processes and

information systems to gain maximum advantage from specific Unisys software.

Unisys promises in the 1992 Annual Report that it will announce additional alliances with established consulting firms for service offerings.

(b) Strengths and Weaknesses

INPUT's evaluation of Unisys' capabilities is high. The primary weak spots appear to be in business consulting, and these can be overcome by judicious use of alliances and utilisation of industry strength from the various "lines of business" organisations supporting its traditional business. In addition to its general capabilities, Unisys has a number of unique capabilities that support entry into its desired market niches, including:

· Industry-specific software for finance, manufacturing, communications, and the public sector

· Connectivity products, including network processors, timeplexing systems, and software products to support SNA, NET, and OSI

· Proprietary and alliance-provided network management products to support a variety of network architectures

· A substantial installed base, particularly in the minicomputer market.

Unisys has particular strength in certain industry segments such as banking. Emphasis is specifically on interbank networking systems (S.W.I.F.T.), document processing systems and retail distribution systems, manufacturing engineering applications, transportation (reservation, air cargo), communications (telephone billing), and state and local governments (police information, on-line management systems and court management systems).

Though each of these areas was a speciality of one of the two merger partners, the new Unisys company has taken this industry expertise and centralised much of the market expertise. Rather than spread this capablility too thinly in individual countries, central units give European critical mass.

Unisys' commitment to open systems is also a major strength in the systems integration market, as is its experience in open systems network integration.

Two strengths that assist CSO in differentiat(c) Conclusions

INPUT believes that like most hardware vendors, Unisys is fully capable in the technical arena and has its biggest hole in the area of business consulting. Clearly, the strong vertical focus of the traditional business can provide support in that area, particularly for commercial systems integration.

A key move in addressing the issue has been the formation of alliances with leading management consultancies whose business expertise complements Unisys' core technical strengths.

(d) Strategic Assessment

Stringent cost cutting and the disposal of certain assets allowed Unisys to record an operational profit in the final quarter of 1991. However, it still faces probably the greatest challenges of all the remaining 'full-line' system vendors in surviving the transition into the market conditions of the 1990's.

Like a number of equipment vendors including Bull and ICL, Unisys will target its competitors' major accounts with open systems solutions and open systems networking. It has also decided to focus strongly on selling information services, leading with expertise in information related consultancy.

The company is now devoting 85% of its resources to increasing business and market share within its installed customer base. Unisys hopes to achieve this by developing solutions for selected markets, namely financial services, airlines and travel, telecommunications and the public sector. Together these represent 75% of non-defence-related revenues.

In other sectors, which are not highly transaction intensive, Unisys is concentrating on building partnerships with leading solutions providers to give its customers access to applications that they can use on Unisys' platforms.

By taking this approach, Unisys hopes to present itself to its customer base as a company with flexible software that meets specific needs and with professional services that help customers maximise the return from their investment.
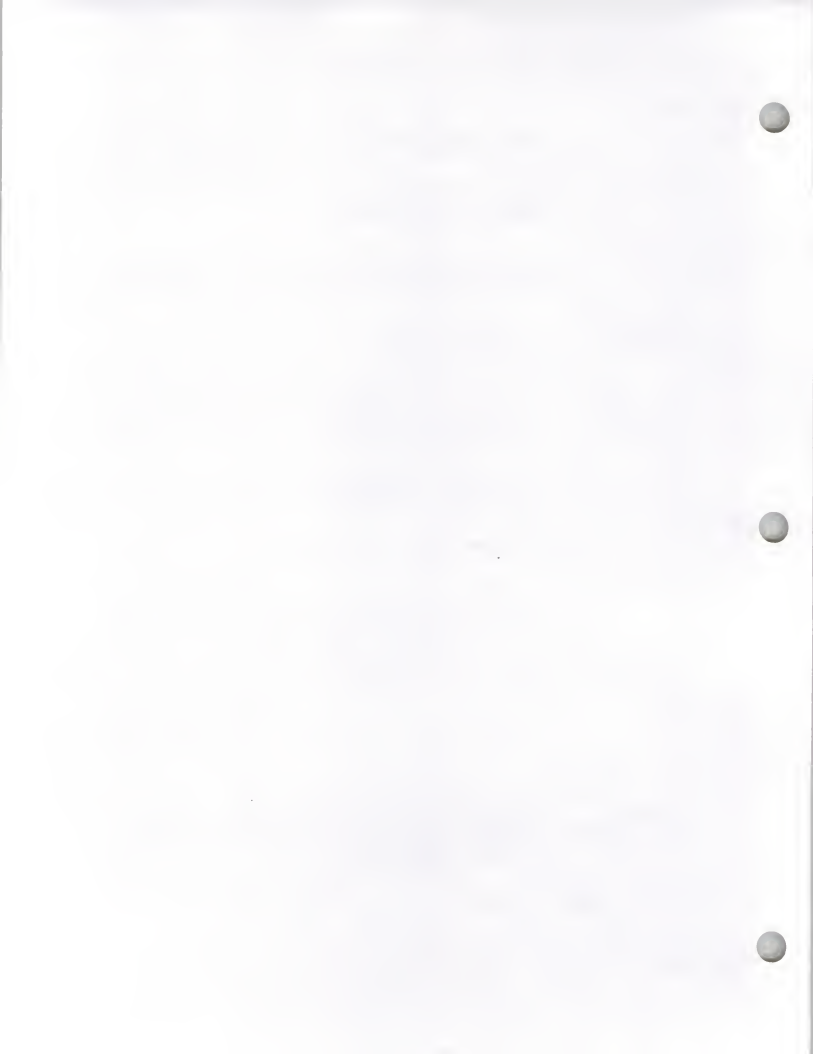
WM-data
Box 27030
Sandhamnsgatan 65
S-102 51 STOCKHOLM
Sweden
Tel: (46) 8 670 20 20
Fax: (46) 8 670 20 60

Chairman: Hans Mellstrm
MD: Thord Wilkne
Status: Public
Number of employees (FYE 31-12-92):
1,145
Revenue (FYE 31-12-92): SEK 907 million

The Company

WM-data was established in 1969 as a small, Swedish computer consulting firm. Today, with over 1,100 employees and a turnover in excess of SEK900 million, it describes itself as a full-service systems house in administrative computer applications.

Its primary market is large corporations, organisations and public agencies in the Nordic countries, although it now also has a small subsidiary operation in the Netherlands and does relatively small amounts of business with other European countries.

Financial Information

Exhibit A shows a five-year financial summary for WM-data.

Exhibit A

FIVE YEAR FINANCIAL SUMMARY FOR WM-DATA (SK MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenue Annual Growth Rate (%)	365	477 31	753 58	869 15	907 4`
Profit Before Tax Annual Growth Rate (%)	46.9	68.5 46	98.7 44	89.5 (9)	86.2 (4)
Profit After Tax Annual Growth Rate (%)	NA	NA	45.7	58.9 29	59.3 1
Employees (average) Annual Growth Rate (%)	584	677 16	963 42	1,117 16	1,140 2

Source: WM-data

Over the last decade revenues have risen at an average 34% and earnings by 27% pa., fuelled by acquisition activities aimed at making WM-data a Scandinavian rather than merely a Swedish company.

Recent acquisitions made by WM-data in 1993 mean that group revenues will have risen to around SEK 1,200 million.

WM-data is still majority-owned by the families of its founders Hans Mellstrom and Thord Wilkne.

Market Information

Exhibit B provides a breakdown of WM-data revenues according to its own categories/definitions. Exhibit C shows revenue by industry market and Exhibit D by country.

Exhibit B

Revenues by Product/Service Category
WM-data, 1992

	REVENUES (SEK MILLIONS)	SHARE (%)
Consultancy	424	47
Software Products	197	22
Computer Resource Services	219	24
Miscellaneous (office products)	67	7
Total	**907**	**100**

Source: WM-data

Exhibit C

Revenues by Industry Market
WM-data, 1992

MARKET	REVENUES (SEK MILLIONS)	SHARE (%)
Manufacturing	327	36
Finance	145	16
Retail/distribution	200	22
Public Administration	163	18
Other	72	8
Total	**907**	**100**

Source: WM-data/INPUT

     December 1993

Exhibit D

Revenues by Territory
WM-data, 1992

TERRITORY	REVENUES ($ MILLIONS)	SHARE (%)
Sweden (Stockholm area)	355	39
Sweden (Rest)	354	39
Denmark	54	6
Finland	27	3
Norway	54	6
Rest of Europe	63	7
Total	**907**	**100**

Source: WM-data/INPUT

Organisation   At the end of financial year 1992 WM-data had 13 subsidiaries in
the consulting field, 4 in software products, and 4 in services. In
addition it had minority interests in 5 others. Exhibit E lists these:

Exhibit E

SUBSIDIARY	COUNTRY	EXECUTIVE	STAFF	1992 REV (SEK MILL)
CONSULTING		**Kjell Larsson**		
WM-data Applikationskonsult	Swed	ke Stterstrm	75	52.8
WM-data CardCom	Swed	Bengt Axelsson	1	7.1
WM-data CardCom	Nor	Per Vorum	10	13.5
WM-data Communication	Nor	Alfred Fidje	15	12.1
WM-data Consulting	Fin	Jorma Andersson	30	10.1
WM-data Education	Swed	Hkan Petersson	60	29.2
WM-data Entreprenad	Swed	Lars Harrysson	60	46.5
WM-data Informationsid	Swed	Leif Svensson	6	4.5
WM-data Konsulent	Den	Peter Mostgaard	60	31.4
WM-data Konsulent	Nor	Geoffrey Pettit	60	31.1
WM-data Konsult	Swed	Ove Larsson	300	200.0
WM-data Management	Swed	Thord Wilkne	7	4.2
KSI Automatisiering bv.	Neth	Toon Rijken	50	36.8
SOFTWARE PRODUCTS		**Crister Stjernfelt**		
WM-data Applikationssystem		Hans-Ole Bng	70	115.0
WM-data Finanssystem	Swed	Jerzy Pietras	10	7.6
WM-data Minfo	Swed	Jan-Olof Stenberg	60	29.0
WM-data Software		Crister Stjernfelt	15	35.1
SERVICE		**Hans Mellstrm**		
WM-data Assistans	Swed	Sture Wald	40	14.5
WM-data Dataservice	Swed	Conny Hjalmarsson	175	219.2
WM-data Ekonomiservice	Swed	Sture Wald	15	5.3
WM-data Nordic	Swed	Thord Wilkne	6	1.9
		SUB-TOTAL	**1,125**	*907*
OTHER INTERESTS				
Ellips Data AB (35%)	Swed	Stellan Larsson	95	*120*
Nordconcept Data AB (50%)	Swed	Erik Mller	30	*30*
proWinsdata ab (50%)	Swed	Lars-Erik Lundquist	30	*35*
PS-Data AB (25%)	Swed	Peter Levander	140	*250*
WM-data Arla (50%)	Swed	Svante Parkholm	20	*15*
		TOTAL	**1,440**	

This total has grown further during 1993 (as described in the Section on Alliances/Acquisitions below).

Recent Acquisitions/ Alliances

Over recent years WM-data has been extremely active in the acquisition field as it sought to achieve its objective of becoming one of the five leading computer systems houses in the Nordic countries. This it has already achieved.

Between 1986 and 1992 the size of the organisation grew from under 300 employees to over 1,100 as it sought to position itself in

the Scandinavian rather than the Swedish market. Much of this expansion has been through acquisition.

Recent acquisitions have been as follows:

- In January 1992 WM-data acquired the small Norwegian company 3C A/S (15 employees), which has been renamed WM-data Communications A/S - it operates in the field of communications consulting.

- In July 1992 WM-data Arla AB was formed as an equal partnership between WM-data and Swedish dairy co-operative Arla to supply the latter's systems development and administration needs.

- In the same month WM-data acquired 25% of the stock of PS-Data AB, a computer operations company providing services to its other owners, Apoteksbolaget (a pharmacy chain), V&S Vin och Sprit AB (alcoholic beverage wholesalers) and Systembolaget (alcoholic beverages retail chain). It has 140 employees and a turnover of SEK 250 million.

- In December 1992 WM-data acquired a 50% holding in proWinsdata ab with 30 employees and a revenue of SEK 35 million. The company supplies the computer operations and systems development functions for Dalarna City Council, the co-owner.

- In January 1993 Aby System AB was purchased. Aby System is active in the documentation field with 15 employees and revenues of SEK 12 million. Its activities have been amalgamated with those of WM-data Education.

- Also in January 1993 Data Design A/S in Norway was acquired. This 8-man company specialises in project management. Its activities have been combined with those of WM-data Konsulent in Oslo.

- Two major acquisitions were made in March 1993. WM-data increased its ownership of PS-Data from 25% to 90.1%, as well as acquiring the whole of FrsvarsData, Sweden with 200 employees and revenues of SEK 240 million. FrsvarsData provides IT support to the Swedish military sector.

- In May 1993 WM-data purchased 50% of Stora Data AB. Stora has 150 employees in Sweden and Germany and supplies systems development and implementation for its parent STORA.

- In June 1993 WM-data acquired a 10% holding in Finansrutin Data AB, a 35-employee company specialising in the systems development and implementation in the banking, finance and insurance sectors.

- In July 1993 the company acquired a majority holding (90.8%) in Scandinavian company Stavanger EDB A/S, suppliers of complete administrative system solutions for PC network and the UNIX-based applications in the manufacturing, petroleum and retail sectors and bringing with it a customer base of around 500 and a wide breadth of competence, particularly in logistics and material/production control. WM-data has announced its intentions of acquiring the remaining shares by the end of 1993.

Major Projects

Many of WM-data's large "contracts", essentially of a facilities management nature, have taken the form of acquisitions, whether complete or partial.

Most of what would be termed major projects under this section have already been alluded to in the previous section, to which the reader is referred.

Key Products and Services

WM-data divides its activities into four broad categories:

- Consulting Services

- Computer Resource Services

- Software Products

- Miscellaneous

Consulting Services

This area, WM-data's original strength, still accounts for the bulk of WM-data's revenues (47%) and employs over 600 staff. It is also the area which has recently been most strongly contributing to the company's growth.

It is perhaps something of a misnomer, since WM-data's definition of "Consulting" here includes a significant element of facilities management activity.

It concentrates on supplying complete solutions to major corporations and organisations, based on long-term systems management and maintenance agreements.

The range of services offered has been broadened and includes:

- systems design
- systems management
- system conversion
- training
- documentation
- operations-orientated consulting
- strategic consulting
- systems management consulting

The first three are the most popular.

The consulting function works in conjunction with the other business areas of the group, with assignments usually carried out by small regional units in close proximity to the customer. Major clients for these services include: banks and finance houses; insurance companies; retailing/wholesaling companies; and government agencies.

Computer Resource Services

This unit provides traditional data processing services and accounts for 24% of group turnover.

The unit caters for clients who wish to outsource their data processing operations and focus on their core business.

In 1991 WM-data completed a new computer centre in the southern Swedish town of Bromlla. This centre, in conjunction with WM-data's own communications network, provides a base for cost-effective outsourcing.

Its services are based primarily on mainframe computers linked to minis, terminals and PCs via the WM-data network.

Clients are mainly large and medium-sized corporations but the public sector is becoming more important, especially local government.

Software Products

Software products was another area of high growth, accounting for 22% of sales, although profitability is currently low due to investment in UNIX-based products.

Its main product focus is that of financial, treasury and logistics systems and software tools. It dominates the Nordic market for mainframe-based standard financial management systems and is growing in the AS/400 and UNIX fields.

One of the unit's premier products has been the AS/400-based Prosit/400 financial management system, which accounted for the bulk of its 1991 sales. A UNIX-based version, Prosit/X, has been released since.

Due to recession WM-data has seen a growth in inexpensive development environments and software tools. The unit offers Easel (graphic user interfaces), AS/SET (AS/400 program development) and MicroFocus products (PC-based applications development).

The area's product range covers all major hardware platforms and the company is an agent for a number of leading international packages. GTX and ViewStar and SoftSwitch document processing systems are examples.

Strategic Analysis

(a) Company Direction

WM-data, having started out in life as a small Swedish consulting firm, now sees itself as a full-service systems house for administrative systems to the whole Nordic bloc.

Its fast expansion over the latter part of the 1980s and into the 1990s has made it one of the fastest-growing Scandinavian software and service companies and represented a marked contrast to its first 5 years of operations when it grew by only 10 people!

In the early days the company concentrated purely on what it calls "traditional computer consulting". However, after 11 years it became an agent for Dun & Bradstreet Software (then McCormack & Dodge), which heralded the beginning of its activities in the software products arena. In 1989 WM-data acquired services company Edebe, thereby adding a third business area to its coverage.

WM-DATA

INPUT

However, unlike perhaps many other companies in the European Software and Services market, WM-data has been careful to avoid growth for growth's sake, as an end in itself. Its expansion has been, it stresses, partly at the demand of its customers for increased products/services, and partly to establish itself as a Nordic supplier rather than a national Swedish player.

The company's business philosophy has not essentially changed. It is:

"to create long-term relationships with clients, business partners and employees by offering quality, far-sightedness and reliability"

It claims that many of its original customer when it started up in 1969 are still providing business and there is high loyalty and a low staff turnover rate.

Its objectives are:

- that the market should perceive WM-data as a long-term partner and supplier of total solutions in administrative systems;

- that clients should feel secure in their relationship with WM-data and feel that the quality it delivers is at least as high as is expected;

- that WM-data employees should perceive the company as an attractive employer;

- that the profit margin should be higher than average for the Nordic computer consulting industry;

- that WM-data should be among the leading computer systems houses in the Nordic countries and that it should play an active rle in the ongoing restructuring of the computer industry in those countries.

It has set out the strategies by which it intends to achieve its objectives. These are:

- Be a stable, long-term partner and supplier, by:

  - growing faster than other companies in the same market;

  - getting closer to the marketplace by more sales activity;.

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- keeping abreast of the EEC computer consulting market and co-operating with countries outside Scandinavia.

- Offer customers a full range of products and services at close proximity, by:

  - expanding the availability of group services in locations where WM-data is represented;

  - expanding in Norway, Denmark and Finland to achieve a better geographic balance of revenues.

- Be an organisation that is both vigorous and flexible, by:

  - actively combining the advantages of small-scale operations with the resources of a large corporation;

  - making acquisitions and launching new ventures in ways which never disrupt ongoing operations;

  - actively integrating associated companies into the Group and continuously reassessing such involvement.

- Continue to supplement existing operations, by:

  - increasing the percentage of Group revenue represented by the training and documentation fields;

  - offering new administrative services.

- Provide the most stimulating corporate culture in the Nordic computer consulting industry, by:

  - actively working to attract and keep the best available employees, who possess advanced skills and a high level of service-mindedness;

  - encourage a sense of commitment and personal development among all employees;

  - maintain a flat, unbureaucratic and informal organisational structure;

  - increase the proportion of employees who have line experience, so that the company can continue to satisfy the needs of its clients in the best possible way.

Although the company states that the recession has affected its markets, it has continued to report revenue growth and only slightly reduced profit levels.

Having positioned itself, WM-data has set its sights on increasing its market share of the markets in which it operates. It perceives its main competitors in this to be Cap Programator and Enator.

(b) Conclusions

WM-data has managed to avoid some of the pitfalls which have befallen some of its European counterparts. It has expanded but only through carefully and narrowly targeted acquisitions and in easy stages. One of its strategies clearly recognises the danger of disruption to normal revenue-earning that acquisitive activities can bring; its expansion has therefore been gradual over a period of years and effected in bite-sized chunks. This has avoided the acquisition "indigestion" syndrome much remarked on in the European Software and Services industry as a whole.

Financially the company is sound and it now has a strong position across Scandinavia. It rightly recognises the need to balance the geographic coverage by reducing dependence on Swedish revenues (78% in 1992).

However, it is hard to see how WM-data could progress significantly beyond consolidation and improvement of its Nordic position; indeed, it has shown no real signs of wanting to, other than maintaining a small presence in the Netherlands where it can keep a "weather eye" on European activities.

The only real danger to its existence is likely to be a sufficiently lucrative offer to its major shareholders (the founders) that it is in its turn acquired by one of the large players with pan-European aspirations. Input suspects that it is perhaps only the current economic climate in Europe and the poor performance of some of the previously aggressively acquisitive players that has prevented this to date.